THE OLD TIMER'S BULLETIN

OFFICIAL JOURNAL, ANTIQUE WIRELESS ASSOCIATION, INC.

Published for the Old Time Wireless Operator, Historian and Collector

VOL. 27 FEBRUARY 1987 NO. 4

SCENE AT CONFERENCE FLEA MARKET

Murray Willer, well known Canadian key collector, with his display. He and others are always willing to buy, sell, and swap and, of course, discuss the value and history of historical artifacts.

(Photo by Dr. Harry Norry, VE3GRC)

Devoted to research and documentation of the history of wireless communications.

Member:
American Association of Museums
Regional Conference of Historical Agencies

ANTIQUE WIRELESS ASSOCIATION, INC.
HOLCOMB, NEW YORK 14469

Founded 1952. Chartered as a non-profit corporation by the State of New York

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A.W.A. JOURNAL
"The Old Timers Bulletin"

The OLD TIMERS BULLETIN is published approximately four times a year at Holcomb, NY by and for members of the Antique Wireless Association, Inc., a non-profit historical society chartered by the State of New York.

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All official business, Conference and meeting activities.

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All dues, address changes and new member applications.

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Want Ads.

Bruce Kelley, Main Street, Holcomb, NY 14469 – Tel. 716-657-7489
Old Timers Bulletin material, Museum artifacts.

Dexter Deeley *(Treasurer),* 8 Briar Circle, Rochester, NY 14618
Financial reports, back issues of Bulletin.

Charles Brelsford, 255 Danbury Circle S., Rochester, NY 14618
Museum business and publicity.

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Henry Blodgett, W2UTH
Dale Donner, K4WR

Change In Address?

All address changes and dues MUST be sent to: Bruce Roloson, Box 212, Penn Yan, New York 14527

Writing AWA Headquarters? Please enclose SASE for prompt reply....

COMING EVENTS
ANTIQUE WIRELESS ASSOCIATION

MAR. 15	P.S.A.R.A. - AWA Meet Seattle, Washington
MAR. 25	Telecommunication Center Cincinnati, Ohio
MAR. 27-28	South-East Conference Charlotte, N.C.
APR. 25	Spring Work Party Holcomb, N.Y.
MAY 1-2	South-East Conference Atlanta, Georgia
MAY 1-2	IHRS - AWA Meet Auburn, Indiana
MAY 3	AWA Museum opens
MAY 9	Local AWA Spring Meet Holcomb, N.Y.
MAY 16	Upper Mid-West Meet Minneapolis, Minnesota
MAY 15-16	ARRL Atlantic Convention Rochester, N.Y.
MAY 23	AWA New Jersey Meet Tranquility, N.J.
JULY 23	AWA New England Meet East Greenwich, R.I.
AUG. 8	Summer Work Party Holcomb, N.Y.
AUG. 14-15	ARCI- AWA Meet Chicago, Illinois
AUG. 22	N.F.W.A. - AWA Meet Elma, N.Y.
SEPT.12 (?)	Annual Hamfest Gaithersburg, Md.
SEPT. 23-27	National Conference Canandaigua, N.Y.
OCT.	V.R.P.S.- AWA Meet Dallas, Texas
OCT. 25	AWA Museum Closes
NOV. 1	Annual Business Meeting Sheraton, Canandaigua
NOV. 29	Annual Worker's Party

SORRY, but there has been a need to have a slight increase in annual dues. See page 7 for details.

AWA NETS (EST/ESDT)

PHONE (SSB)

Sunday: 7247 kc. at 12 noon
3867 kc. at 5 PM

Tuesday: 14274 kc. at 2:30 PM
3837 kc. at 8 PM

Mon.-Wed.-Fri.: 3867 at 9:30 AM

CW-- 3584 kc. 4 PM daily

First Wednesday each month at 8 PM

ASSOCIATION NEWS

Report by Cicely Blossom-Smith

The event took place last year in London with several AWA members participating. The report is from the B.V.W.S. Bulletin.

Report on the:

WIRELESS COURSE covering EARLY WIRELESS and the THERMIONIC AGE

This course was designed and organized by Leon Freris and Tony Constable and took place in the Electrical Engineering Department of Imperial College, London. The subject matter must seem quite out of place in a department noted for its emphasis on modern science and technology. However, we were constantly reminded that the valve has not yet disappeared and may well continue to have an important place alongside solid state devices.

After a witty and lively opening address by Keith Geddes from the Science Museum, Tony Constable dealt with all those pre-Hertzian attempts to communicate without wires and concluded that true wireless telegraphy came into a receptive world that was awaiting its arrival. Vivian Phillips went on to describe life before the valve and showed that many of its "*unique*" applications (rectification, amplification and oscillation) were already carried out with other devices.

Philip Beckley gave us a timeless lesson in efficient crystal set circuitry which would not be out of place in a modern college course and yet was of immense value to the wireless historian. The first day ended with a talk by John Narborough on the origins of thermionics in which he took a critical look at the work of Fleming in the light of the many other thermionic investigations preceeding him.

The second day started with two well delivered informative talks from our guest lecturer, Bruce Roloson, the Vice President of AWA (American Antique Wireless Association). He first dealt with Lee de Forest and gave us a sound logical assessment of his role as inventor of the triode. His second talk told the fascinating story (with a full supporting cast) of how the triode developed after de Forest. Keith Thrower then gave a clear review of the basic principles of amplification, oscillation and feedback. Sidney Wood followed with a full discussion of the pre-1925 valve industry and brought some rare specimens with him.

Ron Martin took up the theme for the post 1925 valve industry as the triode haltingly evolved from the bi-grid to the tetrode and multi-grid forms. Pat Leggatt ended the second day with some unusual sideways glances at the ups and downs (or oscillations) of broadcasting history.

The final day began with a second talk from Keith Thrower in which he beautifully clarified the principles of reflex, neutrodyne, heterodyne and superheterodyne circuits. This was followed with Roger Snelling showing us what the valve industry is doing today with impressive examples of the wide range of unrecognizable thermionic devices now in production.

Tony Constable then gave his second talk in which he made a valiant attempt to single out wireless history's key personalities ... those worthy of receiving the top awards at prize-givings. Jon Hill ended the course with a comprehensive and delightful survey of wireless cabinet design and style.

The course was most enjoyable and very instructive. Audience participation was lively both during and between lectures.

Many thanks to all who contributed and particularly to our guest lecturer, Bruce Roloson, who made the long journey from the U.S.A. especially for the course and to Ian Higginbottom and David Read, who prepared a splendid demonstration of wireless equipment.

AWA AUCTION IS POPULAR

The results of the recent Conference auction was reported in **THREE** national publications and **FIVE** regional club papers. A record of the action is obtainable through the use of a small cassette tape recorder.

ASSOCIATION NEWS

VRPS-AWA CONVENTION'86

The VRPS-AWA Convention '86, held recently in Dallas, Texas, was another successful regional Meet. The attendance, number of entries in the Old Equipment Contest, and the quantity of items in the auction, were all up over the last several years.

Total attendance was nearly 200, made up mostly of 114 members and a number of wives and guests. The Old Equipment Contest, with twenty categories including wireless, radio, TV and phonograph equipment, attracted a large number of entries. Radio categories ranged from pre-1922 wireless to pre-1960 transistor receivers.

The "Best-of-Show" radio entry was a NESCO CN-240 wireless set entered by George Potter. A total of 405 lots were placed in auction with a total sales of nearly $14,000.

Congratulations for another excellent Meet go to Mike Sherman, Convention Manager.

CLEARANCE SALE

at Local Spring Meet
American Legion, Rte. 5&20, Holcomb, NY
SATURDAY, MAY 9

A feature of the Meet will be an auction/sale of duplicate equipment from the Annex. Much of the material is surplus and given to AWA to sell. All items will be sold regardless of price with proceeds to the Museum Maintenance Fund.

Schedule:

Advance sale: 10:30 a.m.
Buffet lunch: 12 noon
Auction: 1:30 p.m.
(AWA and member's material)

Advance reservations necessary for lunch and auction. If you plan to attend, please write or telephone:

Lauren Peckham – (607) 739-5443
Ormiston Road, Breesport, NY 14816
or Bruce Kelley – (716) 657-7489
Main Street, Holcomb, NY 14469

(**Note:** Member's equipment will be direct auction sale between buyer and seller)

Have you built an old time receiver lately? Write and tell us about it.
A.W.A., Holcomb, NY 14469

AWA AND WOODY ALLEN

When you read this, the new Woody Allen movie RADIO DAYS will have premiered in Salt Lake City, Utah at the United States Film Festival (January 16-25). AWA has a special interest in this film since most of the radios used in it were acquired at the '85 AWA Conference flea market or were borrowed from the Association's Annex.

Flea market members who sold sets to Allen's representative may recognize them when they see the movie. In addition to broadcast receivers, AWA loaned Woody Allen Productions (N.Y.C.) a crystal set, studio equipment (console & turntable) and a large recording horn.

The movie stars Allen and Mia Farrow. Let us know your reaction when you see the movie.

BACK ISSUES

The following OLD TIMERS BULLETINS remain in stock. Make check out to A.W.A. and mail to:

Dexter Deeley
8 Briar Circle
Rochester, N.Y. 14618

Vol.#	Vol.#	Vol.#	Vol.#
18-3	22-1	23-4	25-1
18-4	22-2	24-1	25-3
21-2	23-1	24-2	25-4
21-3	23-2	24-3	26-1
21-4	23-3	24-4	26-2

$1.50 each ppd. (1st class mail)

13-3	~~16-4~~	20-2	26-3
14-4	17-1	20-3	26-4
~~15-2~~	17-2	21-1	27-1
~~15-4~~	19-2	22-3	27-2
16-3	19-4	22-4	27-3

$2.00 each ppd. (1st class mail)

~~19-1~~	19-3	20-1	20-4

Issues with Monograph
$3.00 each ppd. (1st class mail)

17-4 (Index) 18-1
$4.00 each ppd. (1st class mail)

Vol. 1 #2 and #3 (reprints for reference.) 50¢ each ppd.

1987 CONFERENCE

SHERATON INN – The popularity of our conference has created a minor problem for some of our members and the hotel staff. For example, a person may have made an early reservation for one day – Thursday. This means the room is available several days before but has to be vacated on Wednesday. Of course the same room would then be free on Friday. This sort of situation makes extra work for the registration people and it is difficult to fill such rooms at the last minute.

To accommodate members who wish to stay four or more nights, the Inn has offered a special discount of 10% per room per night. A $50.00 deposit is required which is refundable providing the Inn receives notice of cancellation no later than August 30th.

As of April 1, 1987 persons requiring rooms for one-two or three nights may register. The same deposit of $50.00 will be needed and will be refunded under the same circumstances as stated above.

FLEA MARKET: The growth of our flea market will require better control in 1987. Numbered spaces will allow everyone equal area as is done at many flea markets in the northeast. Sellers may purchase additional space if necessary. Due to the cost of maintenance of the flea market area plus an increase in insurance figures, the registration fee for sellers will be $10.00.

Lauren Peckham, Chairman

Address all correspondence to Sheraton Inn and mention AWA Conference.

Sheraton Inn, 770 South Main Street
Canandaigua, NY 14424
Telephone: (716) 394-7800

Conference Schedule:
September 23, 24, 25, 26 (Wed. thru Sat.)

SILENT KEY

HENRY BLODGETT, W2UTH

Charter A.W.A. member and Director, past president of R.A.R.A. and S.I.A.R.C., co-founder of Rochester VHF Club and Asst. A.R.R.L. Director.

SCENES AT RECENT CONFERENCE

Photos by Dr. Harry Norry, VE3GCR

Dick Brewster (l.) recipient of Taylor TV Award with John Drake.

Alan Douglas recipient of TWO Awards!

Helen Kelley at the women's program.

SOUTH-EAST REGIONAL CONFERENCE

NORTH CAROLINA

Time: Friday & Saturday, MARCH 27-28

Location: The JOURNEY'S END Motel
3024 East Independence Boulevard
CHARLOTTE, NORTH CAROLINA

Along with the usual swap-meet, equipment contest and interesting programs, everyone registering for the meet is invited to attend "Open House" at Bob Lozier's home Friday evening to view his fine collection.

An entire floor of the hotel's parking deck has been reserved for the swap-meet in event of bad weather. The other activities will take place in the spacious 3100 sq. ft. meeting room.

Room rates are only $38. single and $43. double. Make reservations directly with the hotel by calling toll free: 1-800-722-7290

Conference registration is $5. at the door (No advance registration required). All AWA members in the southeast will receive a flyer by mail. Additional information by writing:

C.R. "Ron" Lawrence
2334 Westerly Hills Dr.
Charlotte, N.C. 28208

(Tele, 704-392-4844 after 6 PM)

NEW RADIO CATALOG

Every couple years Tudor Rees publishes a catalog of vintage radio parts. The latest is 8 x 12" with 165 pages. It may be the world's largest catalog listing for salenew American and foreign tubes, manuals, schematics, books plus all kinds of parts for the collector restoring early receivers. In addition, there is a section devoted to used material of the 20's and 30's.

The "catalog/book" is available Airmail for Five Pounds British currency/ bank draft.
Tudor House, Cossham Street,
Mangotsfield, Bristol BS17 3EN, England.

Telephone: Bristol (0272) 565472 (24 Hour Ansaphone)
Telex 437287 - SharetG. Fax 0272 575442

(Note: NEVER make an oversea purchase via surface mail. The object will be genuinely historical by the time it is delivered!)

TESLA BUFFS will enjoy Lee Anderson's original article on Nikola Tesla's work with high frequency apparatus described in the new "*AWA REVIEW*". Price only $7.50. Send check to: Dex Deeley, 8 Briar Circle, Rochester, New York 14618.

NORTHERN NEW JERSEY MEET

Date: SATURDAY, MAY 23
Location: "THE STILL"
Sussex County Rte. 517, Tranquility, NJ
Approx. 1½ miles north of Rte. Interstate #80, Exit 19 at Allamuchy, N.J.
This is a full access exchange.

Members in Northern New Jersey, Eastern Pennsylvania and NYC Metropolitan area are invited to a one day AWA meet. Here's the schedule:

9 AM to 4 PM -- FLEA MARKET

(Inside facilities in event of rain.)
Frank Sulek- Flea Market Chairman

12:30 Noon-- DINNER

A full course dinner with choice of Roast Beef, Broiled Fish or Turkey. Price only $10. including tax & tip. (Refundable if unable to attend.)

1:30 PM Short Entertaining Program & drawing of prizes. Meet AWA officers and OTB Editors.

There is a nice nearby motel for members who wish to stay overnight: The Panther Valley Motor Inn.

Dinner reservations MUST be made in ADVANCE. Indicate dinner choice and mail $10. to:

JOHN RICHARDT (W2WIY)
94 Bald Eagle
Hackettstown, N.J. 07840
(Tele. 201-852-3475)

BEFORE Tuesday, May 19.

(Note: John also handles motel reservations.)

ANNUAL BUSINESS MEETING AND ELECTION

HIGHLIGHTS:

The term of only one officer had expired: Vice-President. Dick Fish was re-elected with unanimous approval. Dr. John Bardeen was nominated as an Honorary member. Pres. Peckham stated the '86 Conference had the largest attendance to date. Future meetings were discussed and dates set for 1987. It was recommended a committee be appointed to investigate enlarging the Annex facilities.

Concern was shown over the current cost and mailing of the Bulletin which is currently 44 pages as compared to 32 several years ago. It was voted to maintain 40 to 48 pages and increase the dues by $2. to meet present cost. First Class postage costs us $.56 per issue.

Richard Ransley,
Secretary

COMING EVENTS

WASHINGTON

Puget Sound Antique Radio Association and Antique Wireless Association

SUNDAY, MAR. 15

The P.S.A.R.A. and AWA will have a joint meet Sunday, March 15 at the Shoreline Historical Museum, one block west of Aurora Ave. on 175th St., Seattle. The swap meet starts at 1 PM and program at 2 PM. (subject to change). For more information, contact Warren Green, W7JY,7202 N. Mercer Way, Mercer Island, Washington 98040

OHIO

Joint meeting of G.C.A.R.A., The Gray Museum, QCWA Dayton-Cincinnati Chapter, Indiana Historical Society, OOTC members and guests. AWA PROGRAM

Wednesday, March 25

Time: 8 PM Location: Crosley Telecommunication Center
1223 Central Parkway, Cincinnati, Ohio 45214

Historical program...all radio historians and collectors welcomed....See you there.

NORTH CAROLINA

South-East Conference

FRIDAY and SATURDAY, MARCH 27TH and 28TH

JOURNEY'S END MOTEL

3024 East Independence Blvd., Charlotte, N.C.

Full scale program including "Open House" at Bob Lozier's house Friday PM, Swap-Meet, Equipment Contest and interesting programs. Flyers will be sent to local AWA members. See writeup elsewhere in OTB.

INDIANA

Regional Meet of
The INDIANA HISTORICAL RADIO SOCIETY
and The Antique Wireless Association

May 1 - 2
Fri. - Sat.,

Location: AUBURN-CORD-DUSENBERG MUSEUM, Auburn, Indiana

Meet starts Friday with registration at 4 PM and "Old Tyme" Movie" with AWA program at 7 PM. Swap Meet is scheduled at 9 AM Saturday in North Parking Lot. Old Equipment Contest and Auction registration at 9:30 and 10 AM. Contest judging at 10:30 AM with lunch at Museum "Filling Station". Auction starts at 1 PM. Annual banquet and Awards at 6:30 PM. All AWA and IHRS members are encouraged to attend. For additional information, write or telephone: Eric vonGrimmenstein, 9318 Seascape Dr., Indianapolis, Ind. 46250 (317)849-0563

GEORGIA

South-East Conference

Fri. - Sat., May 1 - 2

HOLIDAY INN

Interstate 285 and Chamblee-Dunwoody Rd., Atlanta, Ga.

There will be activities Friday PM with the big events Saturday including a ladies program. Parking facilities for 150 cars. Numerous restaurants in the area. Advance registration $5. and $7. at the door. For more information, write: Larry Flegle, 8825 Roswell Roads, Suite 475, Atlanta, Georgia 30338

NEW YORK

Local Spring Meet Saturday, May 9

AMERICAN LEGION HALL

1 MILE EAST OF AWA Museum on Rte. 5&20, East Bloomfield, N.Y.

9 AM: Large flea market (Registration not necessary) and sale of surplus equipment at Annex.

12 Noon: Dinner and auction $6. (Advance notice necessary for seating purposes- do not send money). See writeup under "Association News" for additional information.

MINNESOTA — AWA — UPPER MID-WEST

SATURDAY, MAY 16th Minneapolis, Minn.

Another fine meet is planned for members in Minnesota and neighboring states. Location: Regency Plaza, 41 North 10th St., Minneapolis, Minn. Here is an opportunity to meet fellow collectors and enjoy fine programming and other activities. Flyers will be mailed to local members or write: Phillip Drexler, 1175 E. Ripley Ave., St. Paul, Minn. 55109

NEW YORK

ARRL Atlantic Division Convention, Fairgrounds, East Henrietta Rd. Rochester, N.Y. MAY 15 and 16

Large AWA Exhibit & booth. 18 acres of flea market-- largest in North-east.

CALIFORNIA — S.C.A.R.S. - AWA — Saturday, May 16

Location: Lockhead Employees Recreation Club, 2814 Empire Ave., Burbank, Calif. Swap meet: 7-10:30 AM, Judging 10:30, Meeting, luncheon & program 11:00 AM This is one of largest west coast "meets". All members in area and Arizona will receive flyer in mail or write: Floyd Paul, 1545 Raymond, Glendale, Calif. 91201

NEW JERSEY — Local AWA Meet — Saturday, May 23

Location: "The Still", Sussex County Rte. #517, Tranquility, New Jersey. (Approx. 1½ miles north of Rte. 80, Exit 19.) Members in Northern New Jersey, Eastern Penn. and NYC metropolitan areas have wanted a nearby AWA Swap Meet. This is it! See details elsewhere in Bulletin.

RHODE ISLAND — New England Meet — Saturday, July 25

AWA will again meet at the New England Wireless and Steam Museum on Tillingham Rd., East Greenwich, R.I. The location has stellar attractions: an outstanding radio museum and of the largest live steam engine setups in the East. Details in the May Old Timers Bulletin.

ILLINOIS — ARCI - AWA — Fri. - Sat., Aug 14 - 15

Location and program in the May Old Timers Bulletin.

NEW YORK — N.F.W.A. - AWA — Saturday, Aug. 22

For the second time N.F.W.A. will host AWA members at the Elma Conservation Club with its excellent facilities. Details in May OTB.

MARYLAND — Gaithersburg — (September)

John Nagle, K4KJ will have a historical radio booth at the Gaithersburg Hamfest. It is a favorite meeting place for collectors and old timer radio buffs.

NEW YORK — National Conference — September 23 - 27

5 days of action: World's largest antique radio flea market, 3 auctions, outstanding programs and dinners. Information in May and August AWA Bulletins.

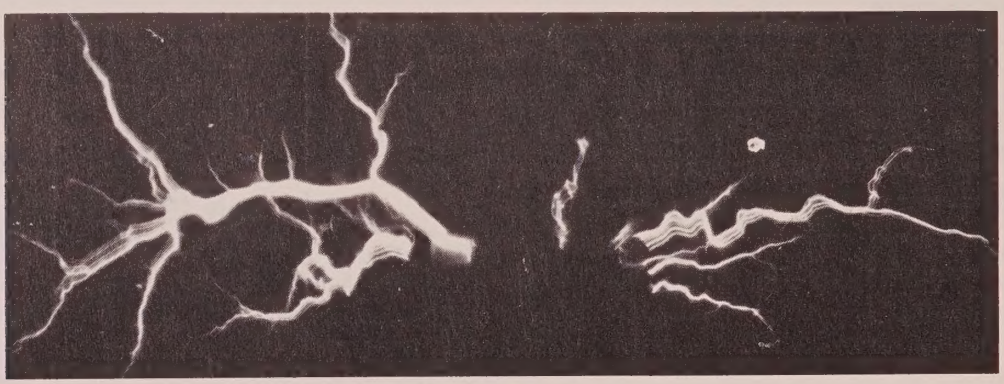
TEXAS — V.R.P.S. - AWA — (October)

The Dallas, Texas Meet is the largest in the south. Full details in the August OTB.

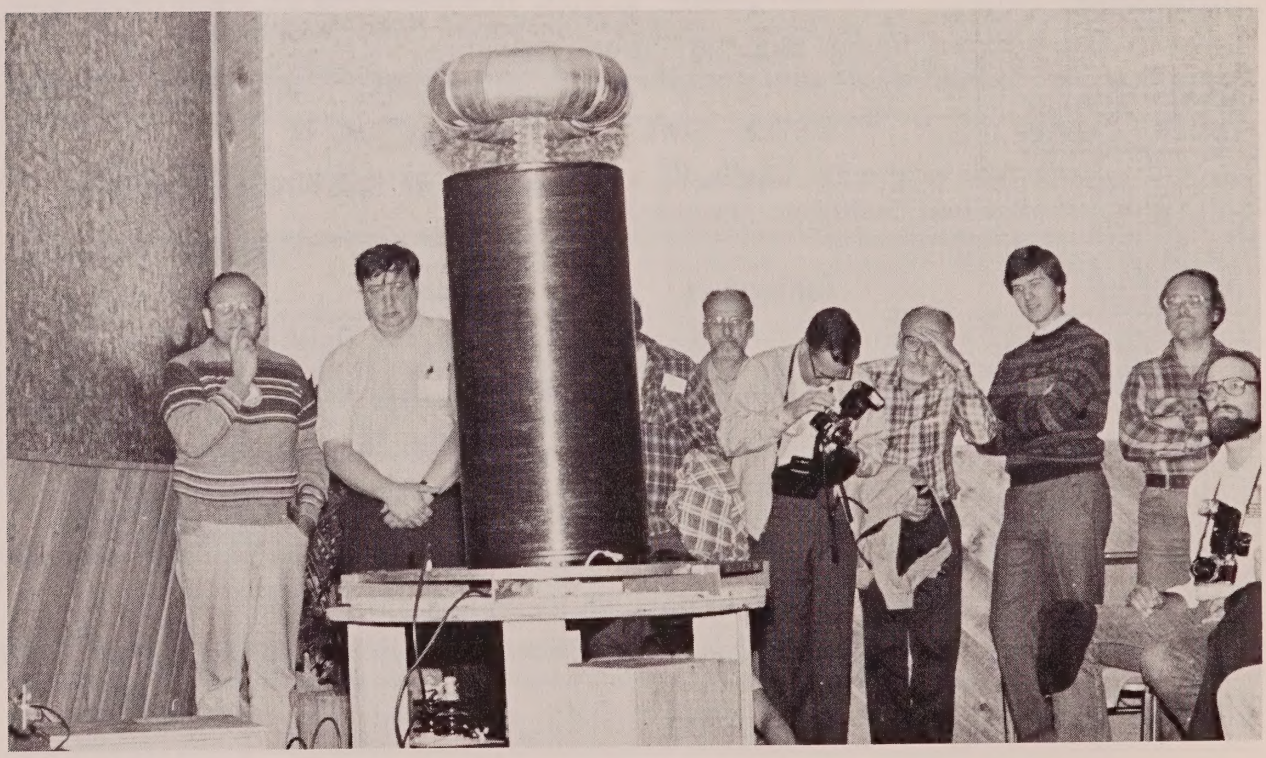
ENGLAND (London) — B.V.W.S. - AWA — (Tentative 1988)

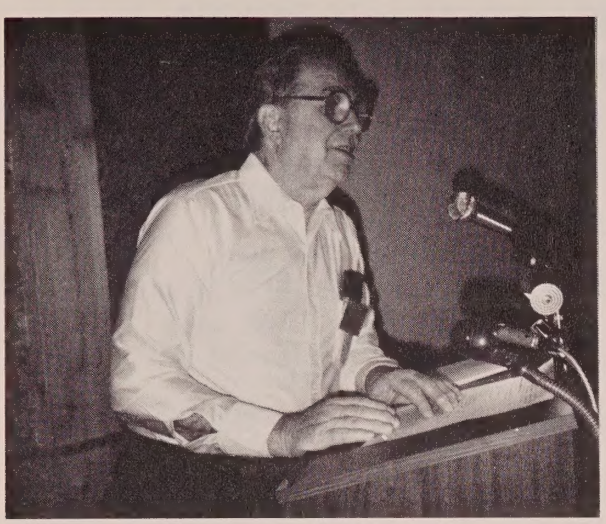
SCENES AT RECENT A.W.A. CONFERENCE

Eastern end of Conference Flea Market



Huge Tesla coil demonstration with 6 to 8 foot sparks!

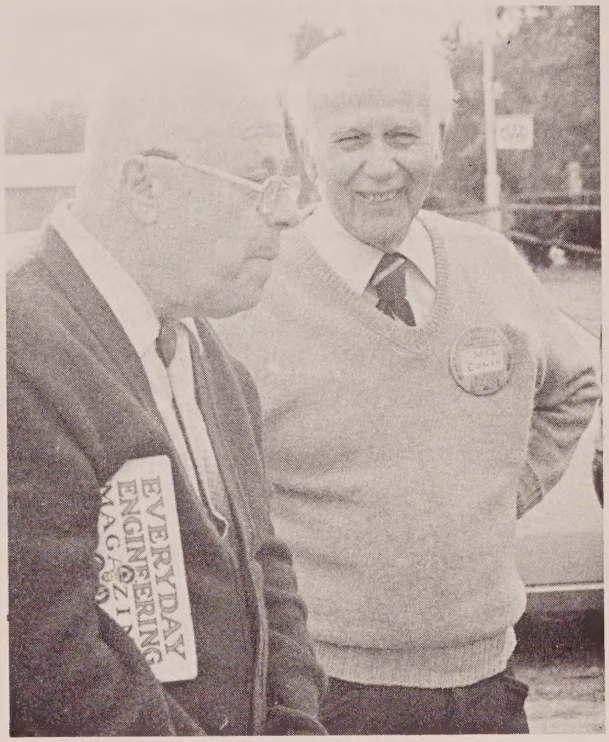




Stu Meyer, W2GHK told about Hammarlund products.

British speaker Jonathan Hill

Elliot Sivowitch (Smithsonian) and Dr. John Bardeen.



"...a shadow of doubt ?"

SAQ participants: K2MP,KD2OM,W6AX,Dr. Anders Widell and Bengt Svensson.

OLD EQUIPMENT AWARDS

NATIONAL HISTORICAL RADIO CONFERENCE

CLASS 1. TESLA ARTIFACTS

1st: Original Tesla publications
Alan Douglas

2nd. Tesla publications
W. Jensby and J. Kreuzer

3rd: Tesla coil
Fred Chesson

Special Award: Tesla magneto machine
John Terry

CLASS 2. Early TRANSISTORS/RADIOS

1st: Regency development
Ross Smith

2nd: Transistor References
Mike Feher

2nd: Bell Lab prototype
Jim Troe

3rd: Early production sets
Robert Lozier

3rd: Antique semi-conductors
Ludwell Sibley

CLASS 3. CRYSTAL & PASSIVE SETS

1st: E.J. Simon shipboard receiver
Ralph Muchow

1st: ER-753 & Lab Notebook
Alan Douglas

2nd: Bowman crystal set
Mike Feherer

3rd: BTH "Bijou" & Cosmos Amp.
Ed Taylor

CLASS 4. ONE & TWO TUBE receivers

1st: Amrad Duo
Doug Furney

1st: Conn. Tele. Co. receiver
Ralph Muchow

2nd: Micro-Secteur
Mike Feherer

3rd: Monroe D-7
Ed Lewis

CLASS 5. THREE TUBE RECEIVERS

1st: Clapp-Eastham ZRFDA
Ralph Muchow

2nd: Paragon RD-2
Bob Betz

3rd: Fada Model 195A
Bill Findley

3rd: Tuska Model 225
Merrill Bancroft

CLASS 6. FOUR & FIVE TUBE SETS

1st: Pye 4 valve receiver
Jim Kreuzer

2nd: Nora 4 KW
Bob Lozier

3rd: Pilot Super-Wasp
Jim Miller

CLASS 7.SIX OR MORE TUBE SETS

1st: Armstrong/Houck superhet
Mike Katzdorn

2nd: Golden Leutz C-7
John Caperton

2nd: Radio LL Synchrodyne
Robert Lozier

3rd: Victoreen Super
Tod Prowell

Special Award: Westinghouse broadcast
Art Albion

CLASS 8. SPARK TRANSMITTERS

1st: Knott coherer transceiver
John Williams

2nd: Ducratet French Navy set
Andre Chompret

3rd: Pierce wavemeter
Mike Katzdorn

Special Award: Amrad SCR-74-A
Don Patterson

CLASS 9. TUBE TRANSMITTERS

1st: 1932 Amateur station
Rodney Schrock

2nd: 5 W. Broadcast & Calibrator
Bob Wilkinson

CLASS 10. TELE. SOUNDERS/RELAYS

1st: Register & sounder
Ed Taylor

2nd: Switchboard,battery & sounder
Ross Smith

3rd: 25 relays & related equipment
Bob Schaumleffel

CLASS 11. Best RESTORED BC Receiver

1st: Leutz C7
Larry Wright

2nd: 3-tube regenerative receiver
Bob Enemark

3rd: Armstrong/Houck super-het
Mike Katzdorn

DISPLAYS:

Special Award -- German Scanning Disc
Franz Mock

Special Award -- United Wireless Type D
John Glisson

EUNICE THOMPSON AWARD
"Best in Show"
Tesla Documents: Alan Douglas

ELLE AWARD "Receiver construction"
Complete station: A.C. Stoddard

AMATEUR EQUIPMENT AWARD
(Funded by Rex Matlack)
Pilot Super Wasp: Jim Miller

Judges: Charles Brelsford,John Caperton Charles Day,Alan Douglas,Bill Holly,Bob Lozier, Ross Smith and Ralph Williams.

Contest Administrator: Elinor Williams

RESULTS OF AWA CONFERENCE VACUUM TUBE AUCTION

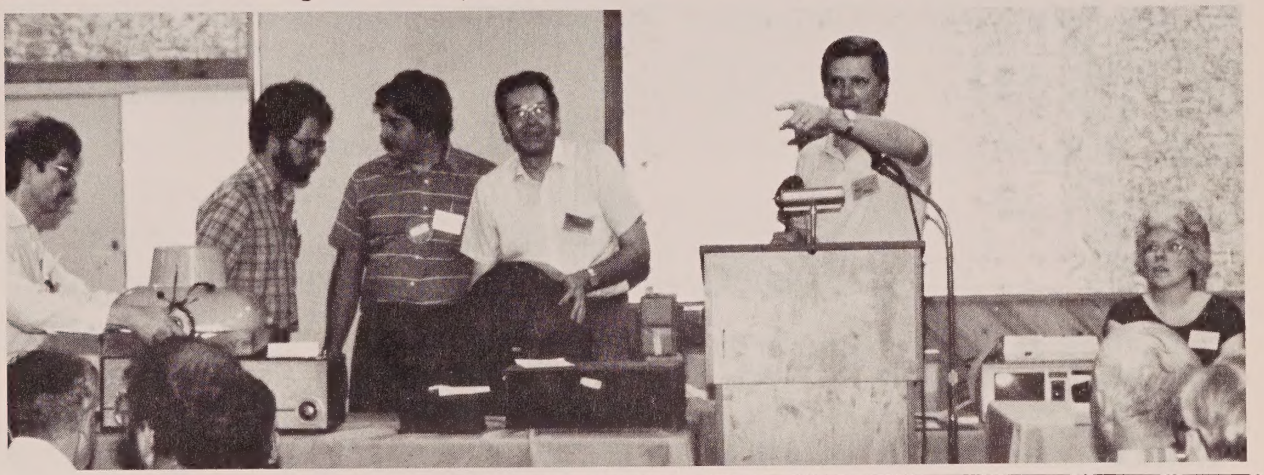
This is a partial list of tubes sold at the recent AWA Conference Auction. All tubes had good filaments unless otherwise noted. Several large lots of tubes manufactured in the 30's and 40's were sold in bulk averaging 10¢ to 25¢ each. Many of the tubes were new in original cartons. This would indicate a definite slump in the later tube market.

Marconi-deForest Moorhead plus (2) VT-1's (new) $75.,(4) UX-213's in original boxes $70.,Meyers RAC3 w/socket (open filament) $60.,W.E. 205 & RCA-UV200 $16.,(2) Meyers (one in box) $70.,Weagent valve $120.,Welsh peanut tube $90., AudioTron $40.,WE 104-D in box $10., Blue Wunderlich (red base) $20.,Cardon C-484 & 485 $5.,GE tungar $1.,TV kinolamp $60., Arcturus Wunderlich (box) $30. (200) new ballast tubes $41.,(3) Acorn tubes (956,958A,959) $5.,(1) UX-250 + (2) X99's $17.,(20) misc. modern tubes (ok fila.) $2.,Westinghouse DRC-593 CRT tube (1931) $100.,(2) Federal magnetrons $20.,Sylvania 2E5 magic eye $9., RCA-808 $5.,RCA 203-A $10.,(2) VT-127 $16.,(2) RCA-800's $13.,UV-203 (brass) w/socket $21., (2) 8005 (new) $5.,WE 219-D $30.,UV-845, brass base w/data sheet $13.,(2) new RCA 832-A's $5., C-302 (brass-tit) new box $20.,

EARLY DeForest: "H" tube $90.,Set of deForest Singer amp/det. tubes w/good filaments (2) $510.,Spherical audion w/ Hudson filament $370., Single wing spherical audion (good fila.) $280., Spherical Audion (good Hudson filament) $420., AudioTron w/2 good filaments w/ label/instr. sheet $200.

FOREIGN: Telefunken RS-237 WW2 transmit tube $45.,WW1 Telefunken EVN-173 $130.,Telefunken EVN-171 $150.,Loewe 3NF w/open fila. $130.,Seddig "RJW" (Tyne p.262) $170.

(Note: Due to spirited bidding, the values on the DeForest Audions went over the "norm".)



RESULTS OF AMATEUR RECEIVER AUCTION

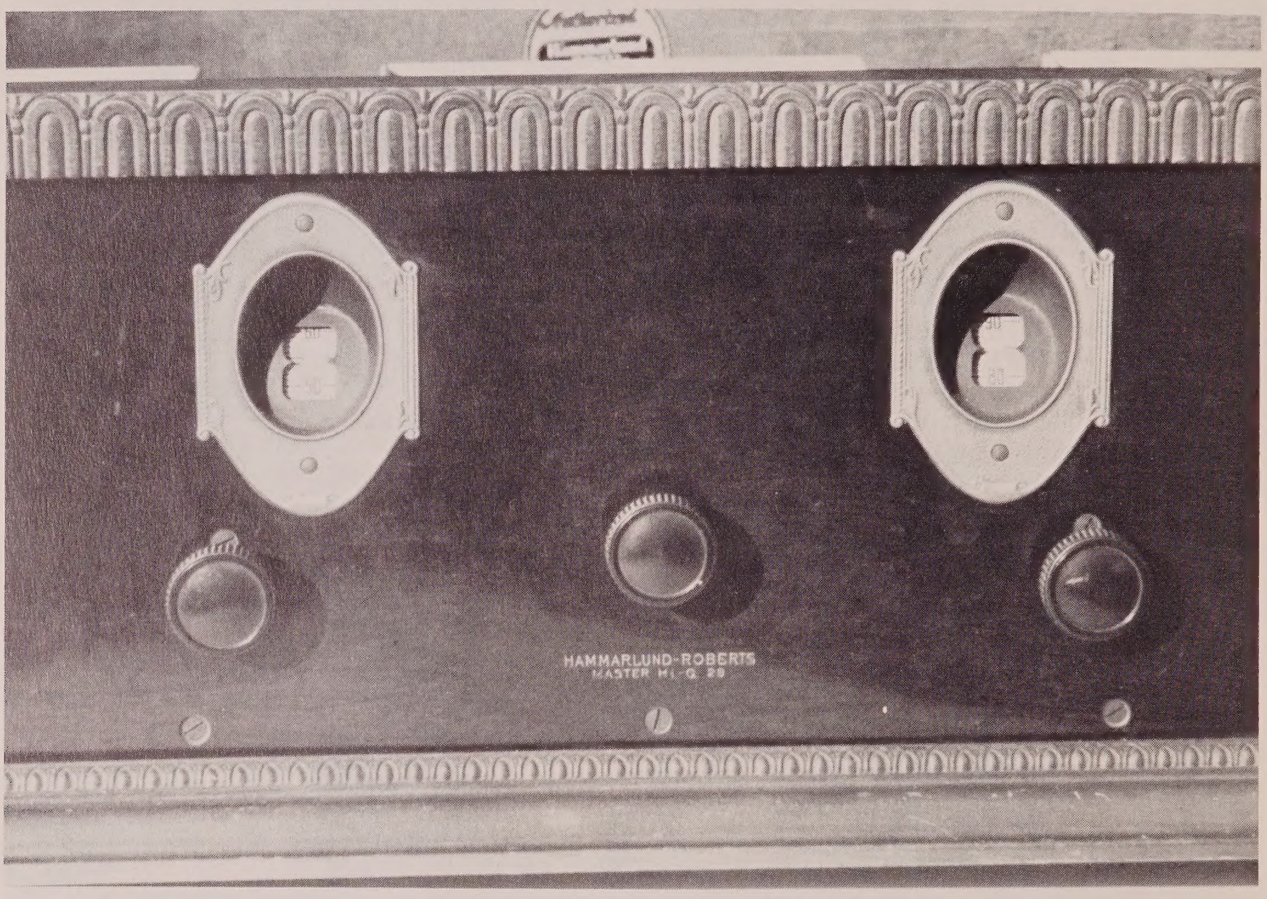
by Ed Gable, K2MP

RCA AR-88D	Very good	$95.
Millen Vari-Arm	Very good	28.
Central Electronics 20A	Good	16.
National FB7-X	Very good	75.
Hallicrafter S-38	Poor	10.
Lafayette receiver	Good	17.
National NC-57	Good	36.
Hallicrafter SX-25	Poor	25.
Panoramic adapter	Good	32.
National NC-173	Good	45.
National HRO-60	Fair	60.
National HRO-7	Very poor	16.
National HRO	Very poor	34.
National NC-125	Very good	65.
Hallicrafter SX-24	Very good	48.
Hammarlund HQ-120	Good	50.
Eddystone UHF	Excellent	90.
National FBXA (rare)	Parts	80.
National FB-7	Fair	45.
Hammarlund RBG-2	Good	50.
National SW-3	(Modified)	60.
RME 69 + DB-20	Excellent	75.
Hammarlund HQ-170	Excellent	75.
Echophone EC-3	Poor	20.
REL 192	Very good	85.
Hallicrafter SX-11	Fair	59.
Hallicrafter S-95	Good	7.
Hallicrafter S-20R	Poor	9.

The above listing is representative of the 50 receivers sold at the Conference Auction. There were several excellent "buys" for the collector interested in vintage equipment. In addition, the sets marked "poor" offered hard-to-find parts for restoration.

The HAMMARLUND HI-Q 29 RECEIVER

by T. Arthur Johnson, Boulder, Colo.



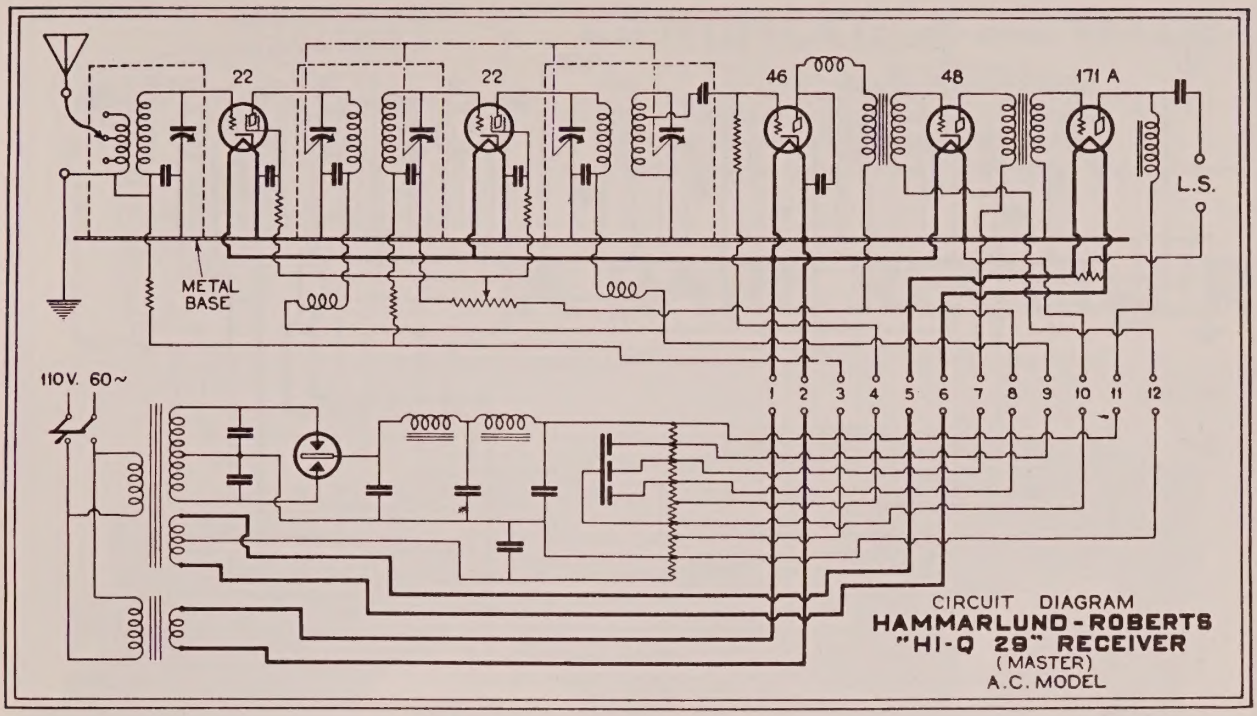
I remember so well as a youngster the ads for the **Hammarlund HI-Q 29** receiver with its two impressive drum dials and all the beautiful shield cans. I never thought I would actually own such a set and soon forgot all about it. But now, after 50 years, I have one including the owner's manual! (Figure1)

Apparently the set was sold as a kit, although it could be purchased assembled. Like other kits of the period, the set was designed around the supplier's components: Hammarlund coils, variable condensers, drum dials and engraved Micarta panel. The common parts consist of Paravolt by-pass condensers, Yaxley jacks, Thordarson transformers and Benjamin sockets.

The instruction book shows 3 different models: The HI-Q 29 Junior and the HI-Q 29 Master DC and AC models. The Junior appears to be a conventional set with untuned, tuned rf, det. and 3 stages of resistance audio with 171A output plus power supply with a BH rectifier. As indicated, the set has only 2 tuned stages with one drum dial. I've never seen this model and doubt many were sold.

The Master HI-Q 29 is the one pictured. The DC model used (2) UX-222 tubes as tuned RF amplifiers, 210A det., 201A 1st audio with 171A output. The AC Master model also uses UX-222's in the RF but the short-lived AC Type 46 and 48 are used as detector and audio with 171A output. This set was designed in 1927 just before the UY-227 and 224 tubes were readily available. Unlike the Junior model, the Master set used audio transformers instead of resistance coupling.

What makes this set so different? Check the circuit and you will see that BOTH the primary and secondary RF coils of the 2nd RF and detector are TUNED! This results in amazing selectivity. Until the advent of the screen-grid tube, this type of circuit would have been impractical because of un-wanted oscillation. The primary coil has the same number of turns as the secondary and both



tuned to the same frequency, in other words, a tuned plate-tuned grid circuit.

To accomplish this and obtain high selectivity, the primary and secondary coils are mounted adjacent to one another instead of "*stacking*" or wound on the same form. This results in very loose coupling and high selectivity. See Figure 2.

The inherent characteristics of the loosely-coupled tuned circuits constitute a form of band-pass filter. The booklet shows the frequency response curve when tuning this unique arrangement.

The drum dial at left (Figure 3) tunes the

(Continued on next page)

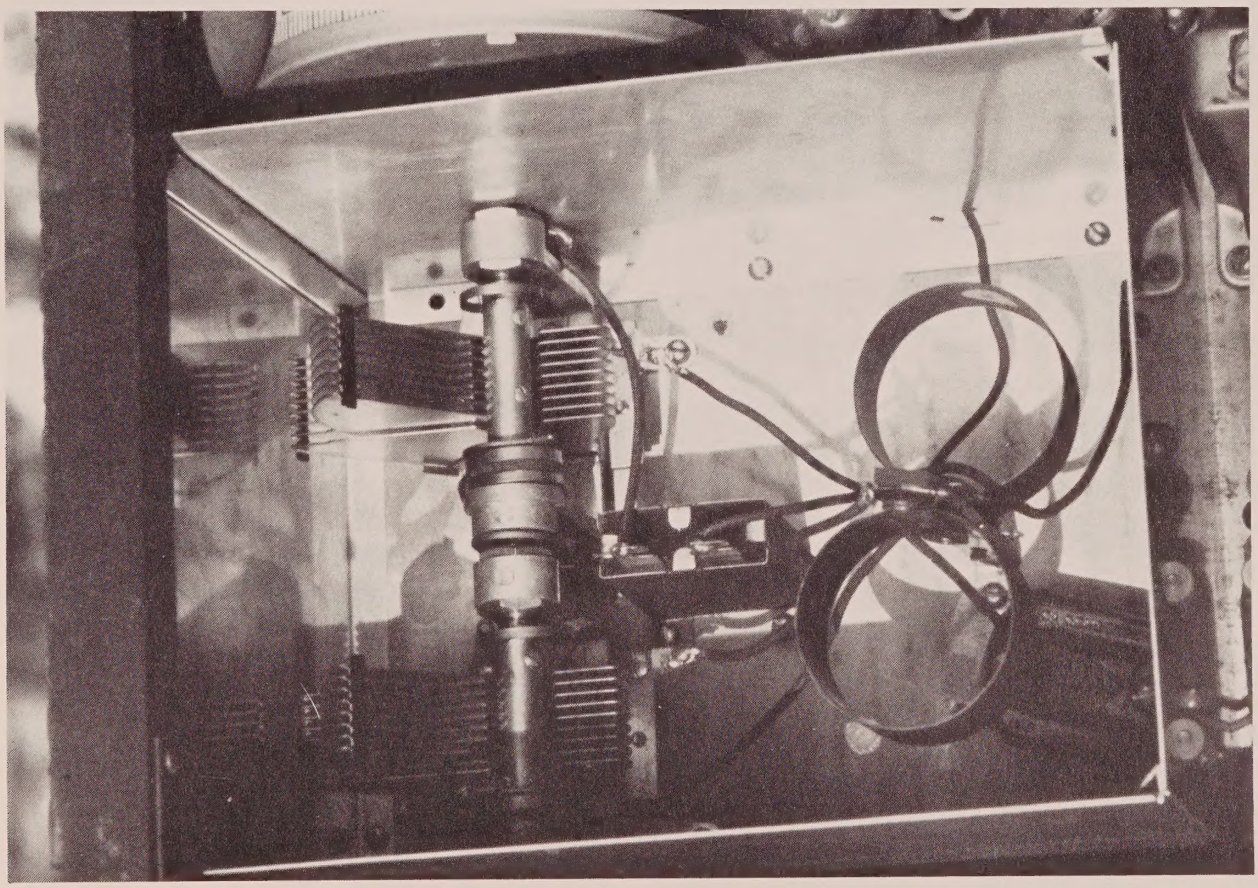
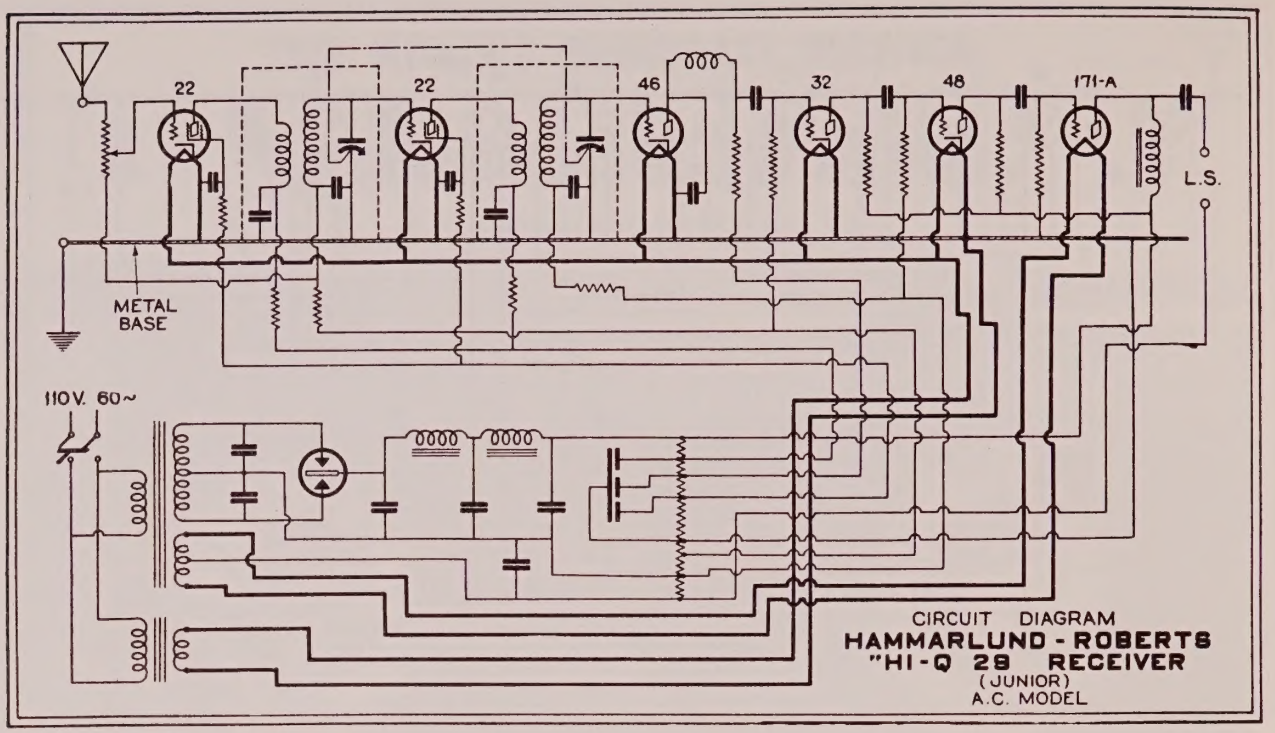


Fig. 2 Note coupling between two coils.



The Junior model with the more conventional circuit.

1st rf stage. The right dial rotates four variable condensers, two in each shield can as pictured. Does it work? You bet. There's a station every 10 kc free of interference.

As a showpiece, I didn't change anything. If I were to use it much, I would build a solid-state power supply and replace the odd-ball tubes with 224's and 227's. What does "29" signify? I don't know.

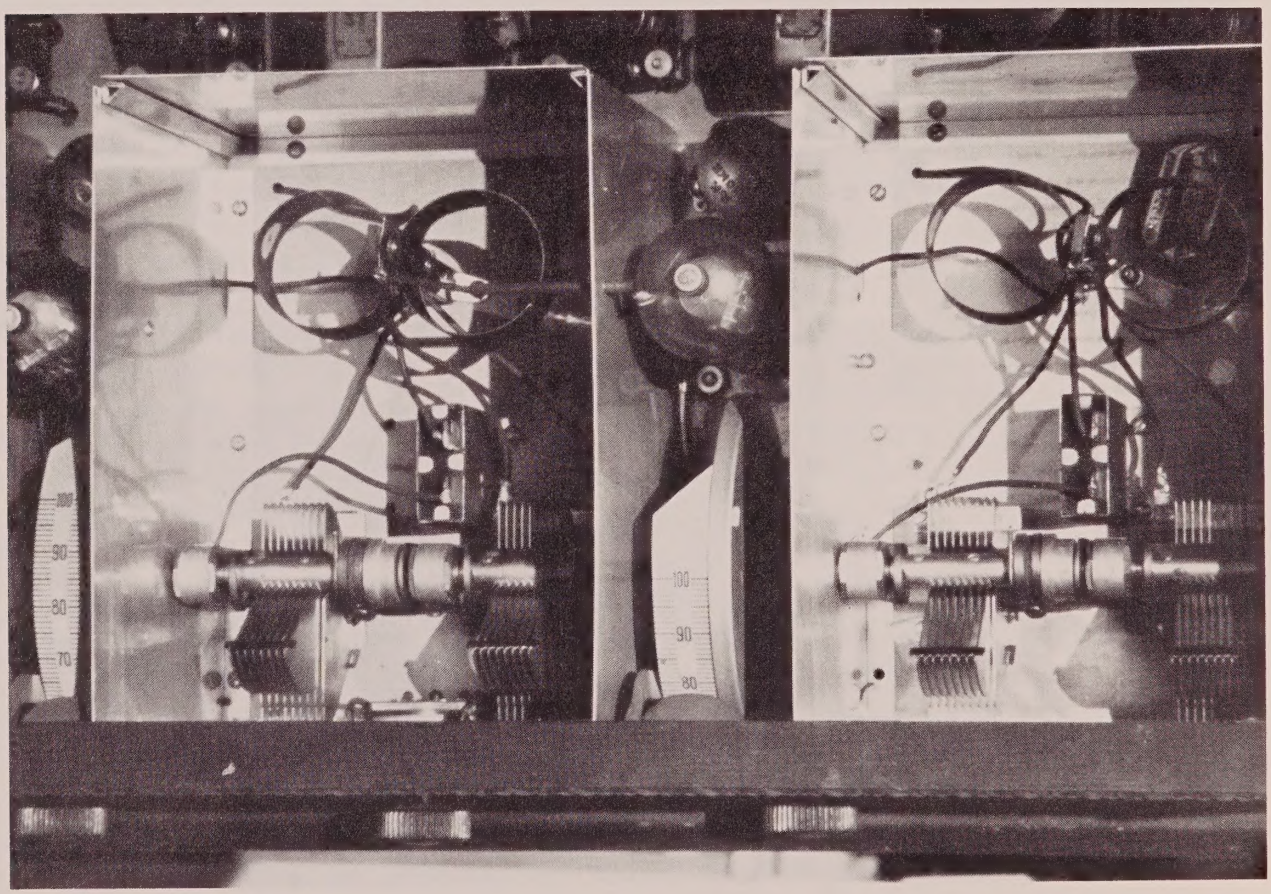


Fig. 3 The two drum dials makes the "29" most impressive.

IDENTIFICATION and VALUE

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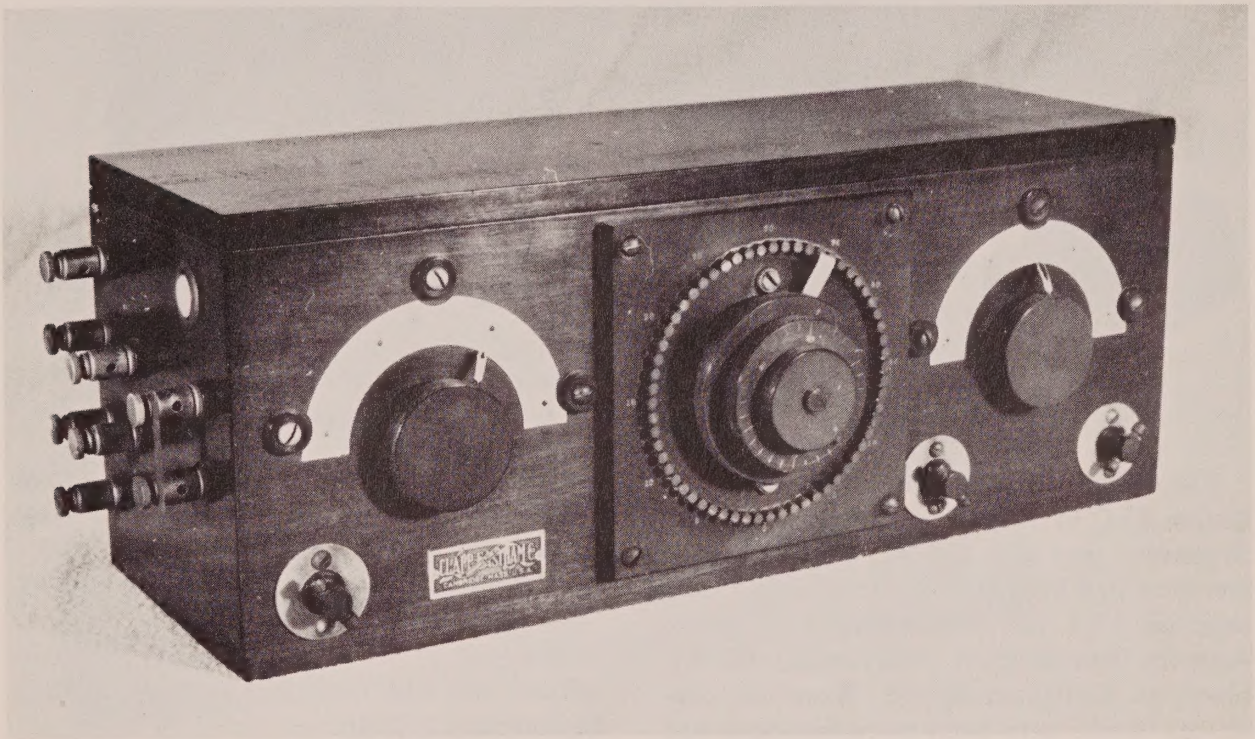
All correspondence requires SASE for reply

A RARE RECEIVER



The name CLAPP-EASTHAM should not require identification as most collectors and historians know it well. I can still remember the first time I saw a receiver made by this company. It was the HR and even had the matching audio amplifier, type HZ, with those tiny knife switches mounted on the front panel. This was around the year 1965. Clapp-Eastham was unknown to most collectors until Greenwood published his "*Pictorial Album of Wireless and Radio*". Some 25 years after Harold's book was printed, the beautiful equipment made by this firm is more popular than ever. The editor is still trying to find the ZRF tuner shown on page 33, but came close when one showed up at a country auction in central New York.

The two photos show a scarce **Type D Commercial Receiver.** Note the elaborate tuner with 60 taps and coupling controlled by three concentric knobs. The MESCO catalog for 1916 lists this item as the "*Receiving Transformer De Luxe*" similiar to the "*Blitzen*" but larger and finer construction. The price was fine, too, at $50.00!

The Type D receiver is shown in the DUCK catalog No. 7 for 1913. Part of their description mentions the group of large binding posts mounted on the left side of the cabinet. These allowed two detectors to be used and a switch provided on the front panel allowed selection of either one.

Mesco recommended the DeForest type PN detector which included **two** audions at a cost of $100.00. The two other switches provided series/parallel connections for the primary variable condenser and a disconnect for the antenna. Inside the cabinet, one can see a test buzzer with a D cell to the left. Both condensers are precision made with a smoothness similiar to laboratory equipment.

This column is supposed to include a value which is usually determined by noting prices at meets, auctions of early equipment, etc. However, with a receiver never seen before and in perfect condition, the figure may or may not be correct. A $1200.00 to $1500.00 level seems reasonable as even a couple of green silk-covered leads with special connectors for the outboard detectors are included!

ALEXANDERSON ALTERNATOR TRANSMISSION FROM SAQ

Recent photograph of SAQ, Grimeton, Sweden

The special transmission from historical station SAQ in Sweden directed to AWA last September was a partial success. European members had little trouble receiving the message on 17.2 kc., but members in North America were at great disadvantage due primarily to daylight reception. Receiving conditions would have been more favorable had the operation been in the evening.

The Association wishes to thank Bengt Svensson for his efforts, the Swedish Historical Radio Club, and most certainly Bengt Dagaas, the manager at SAQ, for providing this rare opportunity to listen to a historical station.

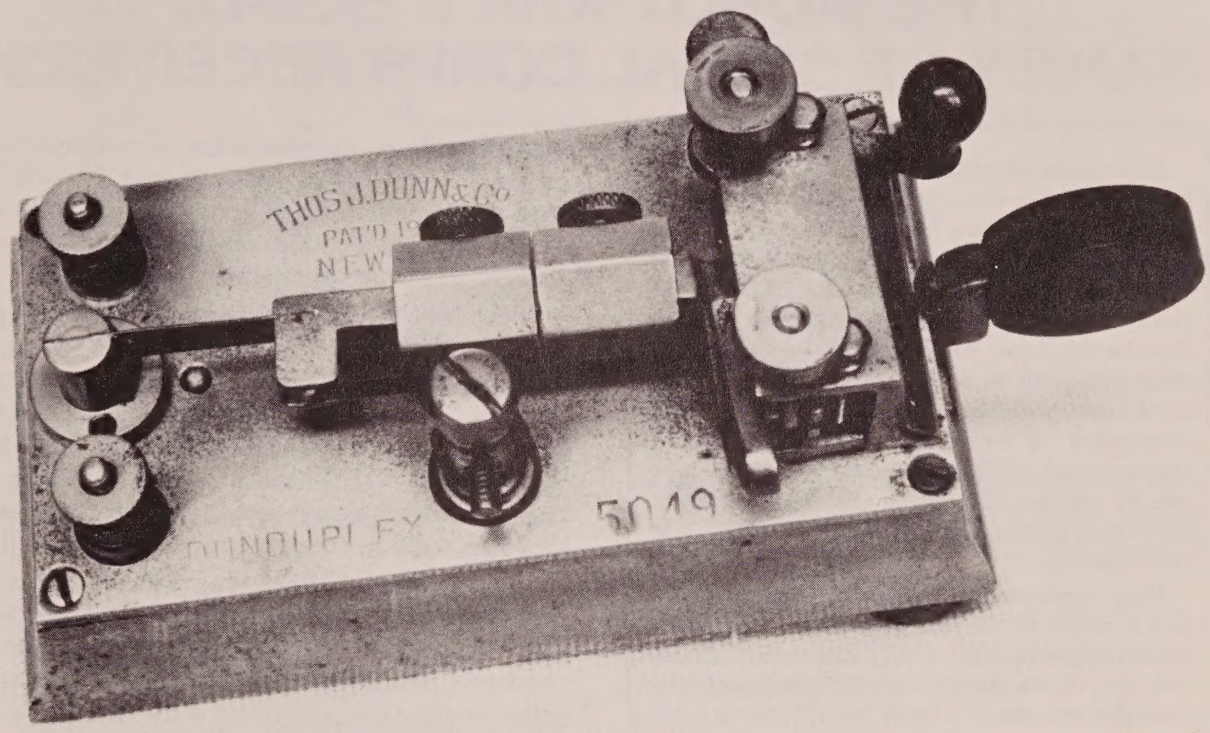
Since few copied the message it is printed in full as it was sent from SAQ at 9 a.m., EDST, September 25, 1986.

The message:

VVV DE SAQ SAQ VVV DE SAQ SAQ THIS IS A SPECIAL TRANSMISSION FROM SWEDISH TELECOM RADIO TO CELEBRATE THE OPENING OF THE NATIONAL HISTORICAL RADIO CONFERENCE, USA. YOU ARE LISTENING TO SAQ, A 200 KW ALEXANDERSON HIGH FREQUENCY ALTERNATOR IN GRIMETON NEAR VARBERG, SWEDEN. KEY DOWN INPUT POWER 400 KW. MOTOR SPEED 711.4 RPM. GEAR BOX RATIO 2.973. GENERATOR SPEED 2115 RPM. THIS SPEED AND THE 976 POLES GIVE THE FREQUENCY 17.2 KHZ. PRESIDENT WOODROW WILSON SENT IN 1918 THE 14 POINTS FOR SURRENDER TO THE GERMAN EMPEROR, WILHELM II FROM A SIMILAR ALTERNATOR IN NEW BRUNSWICK, USA. AROUND 1920 A NETWORK OF 200 KW ALTERNATORS WAS BUILT FOR WORLDWIDE COMMUNICATIONS WITH THE CENTER ON LONG ISLAND, NEW YORK. MANY STATIONS WERE STILL IN USE DURING WORLD WAR II. THIS TRANSMITTER AND ITS MULTIPLE TUNED ANTENNA STARTED DEC 1, 1924. IT IS THE LAST ONE OF THE 20 ALEXANDERSON ALTERNATORS. DAVID SARNOFF, FAMOUS WIRELESS OPERATOR FROM THE TIME OF THE TITANIC DISASTER, LATER ON PRESIDENT OF RCA SAID ABOUT THE SWEDISH BORN ERNST ALEXANDERSON: WHEN THE HISTORY OF RCA IS WRITTEN, IT MUST BEGIN WITH ALEXANDERSON AND HIS ALTERNATOR FOR WITHOUT HIM THERE WOULD BE NO RCA TODAY. THIS MESSAGE HAS BEEN PUT INTO A PC, WHICH TRANSFORMS IT TO MORSE CODE AND IS KEYING THE OLD ALTERNATOR. REGARDS, SWEDISH TELECOM RADIO.

KEY and TELEGRAPH

Editor: Lou Moreau, W3WRE



The R.G. Dunn Company's "DUNDUPLEX" was a fully semi-automatic key whether worked vertically or horizontally. This is one of the instruments sold prior to 1920 and listed in the so-called "bootleg" category because of the blanket Martin patents held by the VibroplexCompany.

QUE: *What are keys that are called "Bootleg" or "Bastard" bugs? Are they any good? When did they first come on the market?*

ANS: The word "Bastard" is a slang term and has been applied, quite incorrectly, to any of the pre-WW1 semi automatics that were not a Vibroplex. A full explanation was given in the March, 1984 issue of the OTB.

Bootleg keys were those that were made by fly-by-night- companies that wanted to make a profit on this newer type of key, or, they could have been home-made bugs. A few of these early manufacturers include the Mt. Auburn Speciality, O.M. Thomas Electric Co., Ata "Z" Novelty Co., and the R.J. Dunn Co. all of whom produced worthwhile keys and were able to remain on the commercial market until they ran into patent infringement litigation with the Vibroplex Company who held a blanket on semi-automatics.

Oddly enough, it is not at all difficult to make one of these keys and a number were excellent instruments. One such key is the "Dunduplex" of the R.J. Dunn Co. who received a patent in 1909 because it could be worked two different ways. Either way it was semi-automatic, thus the name Dunduplex. Horizontally, it is a standard bug. For vertical operation, the two plunger type knobs on the bridge above the pendulum were tapped creating the dashes manually with the right knob, while the left, when tapped, made a series of automatic dots.

This instrument was designed for those afflicted with telegrapher's paralysis. One drawback with this model was the fact that the spring for the dot mechanism eventually lost resiliance.

The COMMUNICATION RECEIVER

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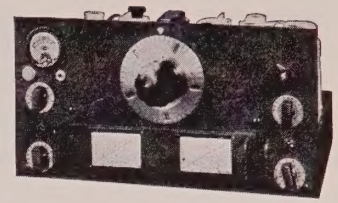
All correspondence requires SASE for reply



THE WORLD WAR II BC-312 FAMILY OF SIGNAL CORPS RECEIVERS

Another of the group of military communications receivers developed during the 1930's and used as a work horse by the U.S. Army during World War II and the Korean War was the BC-312 and its variants, the BC-342 and the BC-314. While there were circuit similarities to the Army Air Corps BC-348 and they were designed at about the same time, they were entirely different receivers. The 312 was originated by the U.S. Army Signal Corps Laboratories at Fort Monmouth, NJ for Army use to replace the earlier BC-189 superhet receiver, a cumbersome design with 12 plug-in coil drawers.

There were several versions of this receiver, and a series of models of each version, all of similar appearance. "Roby" Robinson, W3LW, who told us the story of the BC-348, continues with the BC-314.

RADIO RECEIVERS BC-312/314/342

by Harris A. Robinson, W3LW

The Signal Corps Laboratory at Fort Monmouth, New Jersey, observed the 1934 Washington Conference (*OTB*, August 1986, p. 15), the resulting technical specification on HF receivers, and the performance testing of the original BC-224A prototype. SCL then proceeded with their own design of a 1.5 to 18 mc six-band receiver sufficiently rugged for usage in armoured vehicles, tanks, communication vans, etc.

Their design included four 6-band coil assemblies. The oscillator was temperature stabilized with thermostatically controlled heaters.

The SCL drawings were put out for bid and GE received the first production contract for 150 of the BC-312A receivers. Because of problems which arose, before a second production RCA proposed a modified design to facilitate manufacturing in the light of the experience with the BC-224B. These modifications included access covers on the coil modules, deletion of the thermostats and oscillator temperature controls, and RF inductance adjustment loops, among others. RCA proceeded with production which was designated with BC-312B and subsequent suffix letters.

The revised SCL-RCA production drawings were made available for manufacture by other qualified companies – Farnsworth, Crosley, etc. These receivers were all powered by 12/14 VDC vehicle supplies. For some applications with 115 VAC sources, the dynamotor was replaced by a 115 VAC transformer-rectifier power unit and these production receivers were designated the BC-342.

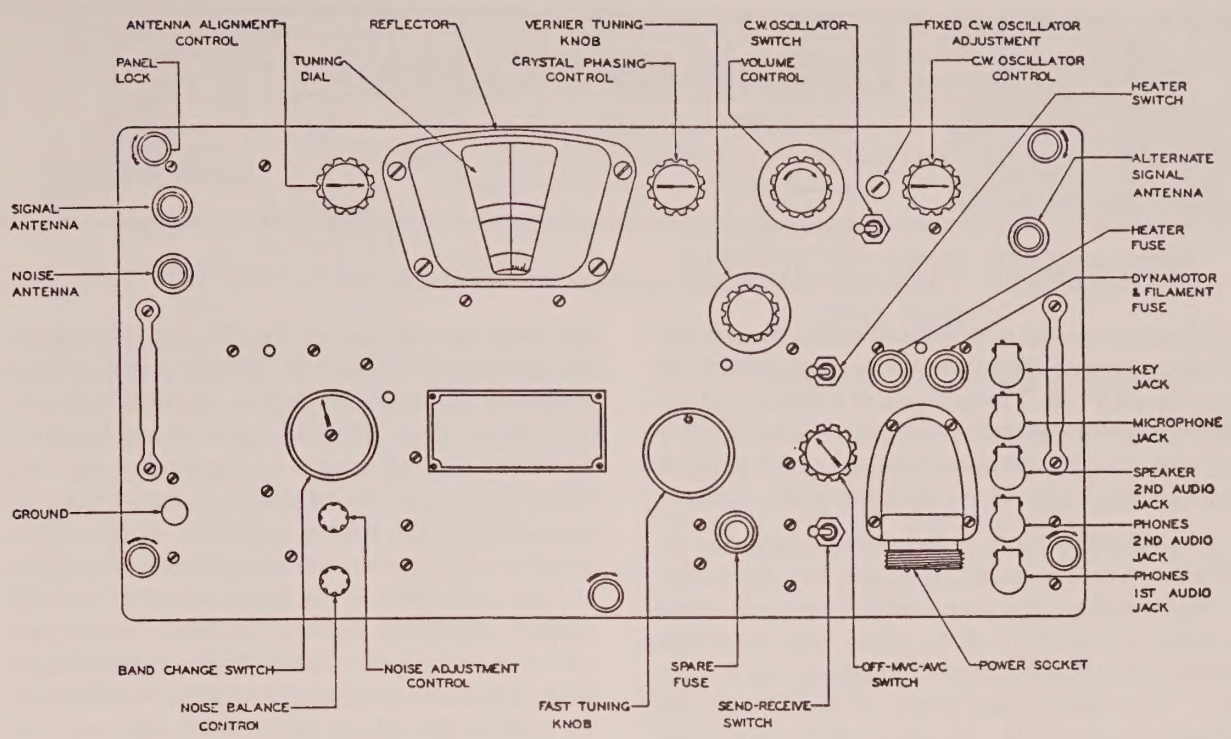
A dynamotor powered 12/14 VDC lower frequency version – 150 to 1500 kc – went into a somewhat limited production. Case size and general design followed those of the HF receivers; these LF units were designated the BC-314.

ADDITIONAL INFORMATION ON THE BC-312 RECEIVERS

Sooner or later many of the military receivers ended up in active use by amateurs, especially in the two year period after WWII when commercial short wave receivers were in such short supply. For some reason this receiver never attained the widespread popularity of the BC-348, probably because it was relatively scarce and there were some problems in converting it to amateur use. The BC-312 was in turn more readily available than the AC powered version, the 342.

The family included the following:

BC-312: Basic receiver of the series; 1500 kc to 18 mc. If you have an A model, it is rare. According to one manual, no B receivers were in service. The noise balancing system and the oscillator heaters were in only the very early letters; if you have an A, B, or C, it is probably a scarce, early model.



The BC-312 showing panel controls, jacks and power socket.

BC-342: The AC version; again, only the early letters have the heaters and noise systems. No A and B models were in service, so if you find one, it is unusual.

BC-314: Low frequency model, covering 150 to 1500 kc. No A or B models in service.

BC-344: The AC model of the BC-314.

You may run across a model which has no letter designation. They are from the very first production runs, and are scarce.

The receiver was mostly used as part of a complete radio set, one example being in the SCR-245 for use in small to medium size vehicles. It was interconnected with the BC-223 transmitter, a separate junction box, a terminal box, and a control box with a T-17 microphone and a headset. Another microphone and headset and a J-45 key were plugged into the receiver. (Former surplus hounds will recognize many of these familiar designations.) This allowed the radio set to be controlled either from the receiver or the control head. All units were interconnected with a series of cables and a single whip antenna served both receiver and transmitter. The power source was the vehicle storage battery and a PE-55 dynamotor. Another common installation had the 314 paired with the BC-191 transmitter, more commonly known as the Air Corps BC-375.

Mechanically, the 314 is not very large in comparison to the commercial equivalents of the day, but it is heavy. With the shock mount it weighed in at 46 lbs. Construction is of the highest quality, one example being in the tuning dial mechanism. A 45 division logging scale on the main dial could be subdivided into 100 segments per division by the vernier tuning control, resulting in very accurate logging. Both fast and slow tuning controls were provided. The power supply could be readily removed and exchanged.

An interesting feature is the row of jacks along the right side of the panel. Early sets had outputs from both the 1st and 2nd audio stages, as well as jacks for "*Mic*" and "*Key*". Leads from the latter went to the large plug on the panel for remote control applications. In a similar manner, the Send-Receive switch is in series with an internal antenna-switching relay and pins in the power plug. A 12 VDC power source is needed to make the relay operate.

In the models with the internal heaters, the oscillator compartment was maintained at a constant 110° F. However, this refinement required an additional 25 watts of power. Another nicety of the early sets was the antenna noise balancing network. The two controls were located behind covers under the band switch. Designed to minimize vehicle ignition noise, it was unduly complicated and was omitted after the first models.

Most of the 312s operated on 12-14 VDC at approximately 7 amps, although some models after the G were designed for 24-28 VDC and were designated by the letter "X".

MAKING THE RECEIVERS OPERABLE:

If you have the BC-312, it can be powered with the dynamotor, which will require 10 amps at 12-14 VDC, or 6 amps if the heaters are not present. Observe the precautions with the old dynamotors as detailed in the BC-348 articles. If you have the

[Continued on next page]

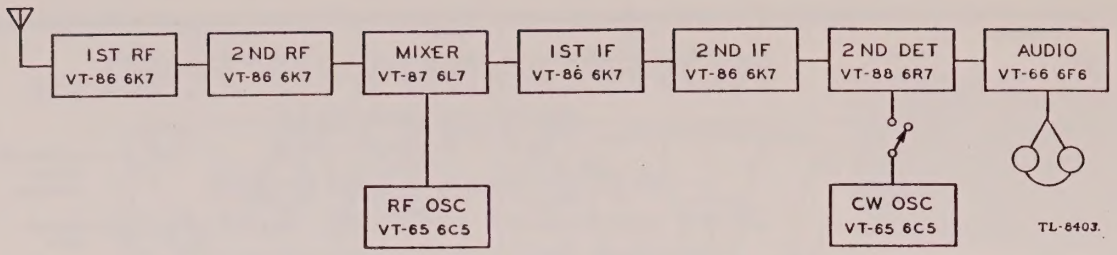
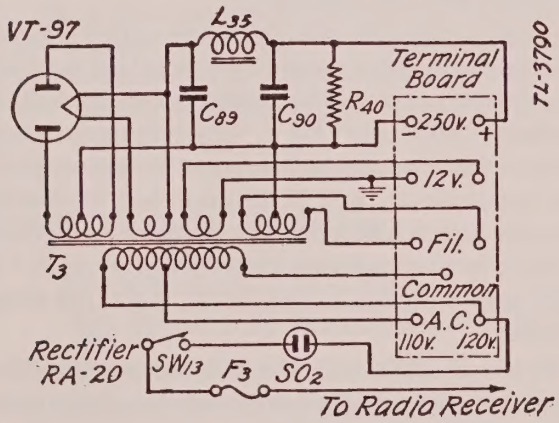


FIGURE 2.—Block diagram of radio receiver BC-312-(*).

AC powered model or wish to convert a dynamotor model, acquire or fabricate a power supply that will provide a 12 volt, 2 amp filament winding and deliver approximately 250 volts under load to the B+ circuits. The RA-20 power supply used 8 uf caps; higher values will help reduce the audio hum.

Unfortunately there is not enough space to include a circuit diagram here, but they are widely available in the surplus conversion manuals and of course, in the TM 11-850. Also, look inside the cabinet; you may find both a diagram and a parts list. Remember that some of these sets are almost 60 years old, and some of the capacitors may be bad. Suspect all high-voltage by-passes, and if you find a bad one, snip the lead and replace with a modern high reliability equivalent under the chassis out of sight. The socket on the front of the set is hot with B+ . . . be careful!



C89 C90—8-microfarad capacitor, type CA-329.
F3 —2 ampere fuse, type FU-27.
I 35 —14-henry choke coil, type C-227.
R40 —65,000-ohm bleeder resistor, type RS-220.
SO2 —A-c power socket.
SW 13 —Line switch, type SW-105.
T3 —Power transformer, type C-228.

Power supply RA-20

To align the set, the manual is helpful. Briefly, the IF in the 312 and the 342 is 470 kc, while that of the low frequency models is 92.5 kc. With the former the oscillator operates 470 kc above the RF on bands A, B, and C, and 470 kc below on the other bands. The BC-314 receiver has the oscillator at 92.5 kc above the RF signal on all bands.

For those readers who want to do more than just get the receiver going or look at it, an excellent overview by George Grammar is in the September 1946 issue of *QST*. Most of the changes are such that the outward appearance is not altered. His approach was to hop up the RF circuits, put the crystal filter on frequency, provide a way to shut the set off during transmission, and reduce the AC headphone hum. The bad backlash can be cured by lubricating all gears, by tightening the end thrust bearing in the oscillator compartment, by repositioning the tuning capacitor, or by a combination of all three methods. It is also important to have a speaker in the plate circuit of the 6F6 output; otherwise replace the open circuit jack with a shorting type to drain off the high voltages which can build up inside the output transformer. To match the output, try a 4000 ohm external transformer.

Besides the above references, information can be found in the *Radio Handbook, 11th Edition,* 1947 and in QST H&K of the period (See also *Hints and Kinks*, Vol. 5, 1954). This is also a good time to reemphasize my point about not making changes in mint units. (The November '86 *QST* contains an ad seeking WWII communications gear in original crates.)

Making these old sets work again can be very enjoyable. Most are still available for reasonable prices, and while the BC-312/342 can hardly be made into a modern communications receiver, it will turn in a very credible performance.

-- *K3ZJW*

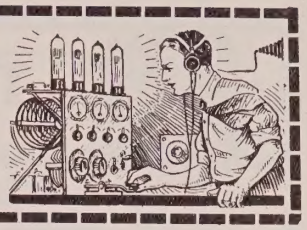
The Ralph Batcher Memorial Award

The Radio Club of America (New York City) presents an annual award to a member who has done outstanding service in preserving or documenting historical radio. To date, 9 of the 11 Awards have been given to AWA members. Ralph Batcher was also an AWA member and was recognized as a leading radio historian.

* Morgan E. McMahon	1976
John F. Rider	1977
* Bruce L. Kelley	1978
* Robert W. Merriam	1979
* Edward G. Raser	1980
* Ernest A. DeCoste	1981
* Louise Ramsey Moreau	1982
* Joseph R. Pavek	1983
* William A. Breniman	1984
Donald G. Fink	1985
* Donald K. deNeuf	1986

AMATEUR RADIO

Editor: Ken Gardner, W2BGN
42 Oakdale Avenue S., New Hartford, NY 13413
All correspondence requires SASE for reply



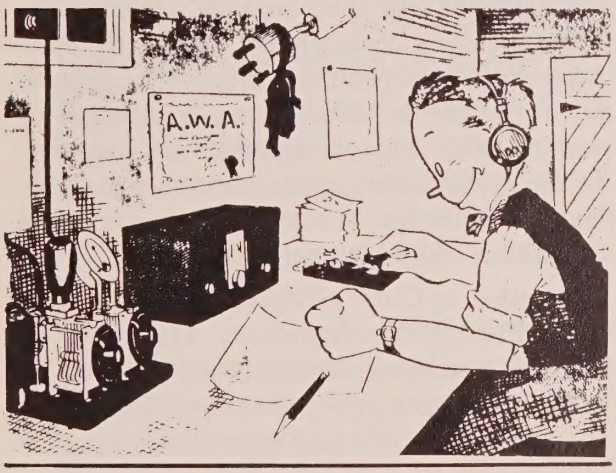
AWA AMATEUR RADIO FORUM

1986 Conference

The Amateur Radio Forum held during the Conference was another successful gathering that provided an opportunity for members to meet one another in person. Here's the list that signed the log:

W1DX	W2BGN	W2HIN
W1RW	W2GK	K2OA
W1DM	W2LV	K2LP
W1HH	W2SN	K2MP
W1YJ	W2BJI	W2GRX
WA1CBR	W2IEG	W2AAU
WB1CMG	W2RFY	WA2FLT
	W2HBE	KD2OM
W3CFC	W3YEY	W4COC
W3GC	WB3LTL	W4NM
W3BY	W3HWT	W4DBT
N3AYU	W3OER	K4TS
KC3YE	WA3GMS	W4NQM
W3DB	KB3SI	W4JT
W3NMG		K4KRE
K6RTU	W7AHK	VE3HOX

6 PM, JANUARY 14



(A.R.R.L. permission given to copy W1CJD's cartoons for amateur use.)

RADIO AMATEURS will find in the new "*AWA REVIEW*" the most thorough history ever written on the famous **National Company** and its products. The lengthy article includes a complete listing of all National receivers and year released. Cost $7.50 including handling. Send check to: Dex Deeley, 8 Briar Circle, Rochester, New York 14618.

RESULTS OF 1929 TRANSMITTER QSO PARTY

by Bud Hall, K2LP

The 1929 Vintage Transmitter QSO party was a huge success, far exceeding last year's results:26 stations participated with 25 logs received!

The leaders in number of QSO's were W2BJI with 21 contacts followed by W2VDI, also 21. W3's were noticebaly absent. Here's the lineup by districts:

Call	# Qso's	Transmitter
W1DX	16	UX-245 TNT
W1BPI	3	UX-210 TNT 10w.
W1BVL	10	807 xtal 8w.
W1HH	16	TNT
W1MB	1	UX-210 TNT 8w.
W1XV	4	UX-210 9w.
W1KEK	14	UX-210 TNT 8w.
W1SZJ	2	UX-245 Hartley 6w.
KB1UV	10	CX-301A Hartley
K2LP	20	UX-210 TPTG 9w.
W2BJI	21	UX-245 Hartley 9w.
W2VDI	21	UX-245 TNT 9w.
W2FB	17	UX-245 Hartley 9w.
W2HBE	15	UX-210 Hartley 8w.
W2FW	5	UX-210 xtal 15w.
W2HIN	19	UX-210 Hartley 9w.
W2SN	19	Hartley 9w.
K2MP	6	UX-245 Hartley 9w.
K2RY	7	Hartley 9w.
W2FFU	8	CX-301A 1.5w.
W4COC	7	UX-210 TNT
W4NM	16	CX-310 TNT
W4OTN	11	UX-245 9w.
W4VBX	7	UX-210 TNT 8w.
K4KRE	3	Hartley 9w.
W7AHK	1	UV-202 Hartley
VE3BDV		Modern

The number of qso's were double that of the previous year (1985). Much credit is given to KB1UV and W2FFV for QRP operation with 201-A's. Recognition for earliest TX goes to W7AHK using a UV-202. Noticeably absent was W2AN who was in California during the Party.

DON'T FORGET---
to send me your logs for last month's OT Contest. Logs are necessary for determining final scores.

- Ken, W2BGN

TELECOMMUNICATION

Editor: Don de Neuf, WA1SPM

EARLY SEMI-CONDUCTORS & CATHODE-RAY TUBES

One seldom hears about or sees the name of Karl Ferdinand Braun, a German who shared the 1909 Nobel Prize with Marconi for "*Improvement in Wireless Telegraphy*".

Braun was actually responsible for the development of the crystal detector, which was a considerable improvement over the Branly coherer widely used at the time. Braun found in 1874 that a sharp metallic point such as a "*cat-whisker*" wire brought into contact with a crystalline semi-conductor substance such as galena or copper pyrites allowed current to pass in only one direction. He used this device in conjunction with a capacitor in a receiver circuit to detect the presence of electromagnetic waves.

In 1897 he invented the cathrode-ray oscilloscope. It employed a "*gun*" producing a beam of electrons located at the narrow end of a glass funnel. The inside surface enclosing the wide end of the cone was coated with a fluorescent material that showed a spot of light where the beam struck. The beam could be deflected over the screen by varying voltages applied to the pair of perpendicular internal plates, or by magnetic fields. This device was to become the kingpin of the eventual all-electronic television system.

Braun was one of the first to use wireless for navigational and direction-finding purposes. He evolved a system of wireless telegraphy similar to Marconi's and that of a fellow countryman, Adolph Slaby. The German Army preferred the Braun system, while the German Navy favoured the one developed by Slaby. For the purpose of national standardization and to counter the powerful British Marconi organization, the two combined resources to form the German Telefunken Company in 1918.

Sweden, in 1969 issued a postage stamp honoring the two Nobel Prize winners, Marconi and Braun.

CURIE DISCOVERED MORE THAN RADIUM

Pierre Curie is probably best known for his association with Madame Curie in the discovery of radium and polonium. He was born in Paris in 1859.

It is seldom mentioned however, that with his brother Paul-Jacques he discovered piezo-electricity, one of the most important developments in the field of telecommunications. It was while he was studying pryoelectricity that he developed a theory which led him to foresee, before he had actually observed it, a new phenomenon – piezoelectricity.

He found that when certain crystals are subjected to mechanical strain a charge of electricity results. And, conversely, such crystals produce mechanical forces when voltage is applied in a suitable manner. Piezoelectric properties are exhibited by several natural crystal substances, including Rochelle salt and quartz.

The greatest effect is displayed by Rochelle salt which for many years was used in crystal microphones and loudspeakers. But the frequency control of oscillators, especially those used in radio transmitters (broadcast and amateur) to ensure their staying on a fixed frequency was probably the most important development. In this application quartz crystals are used because of their permanence, low-temperature co-efficient, and high mechanical Q.

Another of Curie's important works was in the field of thermomagnetism. He found that there is a critical temperature – now called "*Curie Temperature*" – above which the magnetic properties of a substance disappear. For iron, this is 1043 degrees K.

Curie died in Paris in 1906.

BROADCAST RECEIVER

collectors will find the new book "*AWA REVIEW*" a valuable source of information. The history of **Atwater-Kent Company** is told plus a complete illustrated description of all AK breadboard receivers. Cost $7.50 including mailing. Send check to: Dex Deeley, 8 Briar Circle, Rochester, New York 14618.

BOOK & MAGAZINE REVIEWS

by Ernest Hathaway

"THE A.W.A. REVIEW"

The first issue of the *A.W.A. REVIEW*, Volume I, 1986 Edition, a comprehensive reference source for the collector, restorer, and historian with an interest in early wireless, is now available from the A.W.A.

1. THE FOUNDING AND DEVELOPMENT OF THE AWA AND ITS MUSEUM by Charles M. Brelsford
2. JOHN STONE STONE ON NIKOLA TESLA'S PRIORITY IN RADIO AND CONTINUOUS RADIOFREQUENCY APPARATUS by Leland I. Anderson
3. FARNSWORTH'S CONTRIBUTIONS TO MODERN ELECTRONIC TELEVISION by Stephen F. Hofer
4. A RADIO AMATEUR IN WORLD WAR I by Clarence D. Tuska
5. A BRIEF HISTORY OF THE NATIONAL COMPANY, INC. by John J. Nagle
6. ATWATER KENT EARLY RADIO DEVELOPMENT by Ralph O. Williams
7. FIELD TEST OF THE ARMSTRONG WIDE-BAND FREQUENCY MODULATION SYSTEM FROM THE EMPIRE STATE BUILDING, 1934 AND 1935 by Thomas J. Buzalski
8. AN INTERVIEW WITH PAUL GODLEY by Wayne Nelson

Material for Volume II of the *AWA REVIEW*, planned for publication in 1987, is now being assembled. Volume I of the *REVIEW* is available for only $6 direct or $6 plus $1.50 by mail ($7.50). Make check to AWA and mail to:

Dexter Deeley
8 Briar Circle
Rochester, NY 14618

RADIO HORN SPEAKER ENCYCLOPEDIA

by Floyd Paul, W6THU

The time period is 1920 through 1927 and radio horn speakers were a significant contributor to the development of radio during this era. The book brings to print many details of radio horn speakers and preserves some history of companies that made them. The book has over 145 photographed horns and identifies over 320 manufacturers, lists trade names, and presents the results of a major horn speaker survey made over a three year period.

Available from the author at $11.90 each plus $2.00 shipping and handling. Make check out and mail to:

Floyd A. Paul, 1545 Raymond Avenue, Glendale, CA 91201

(Discount on quantity.)

GOLDEN AGE OF RADIO IN THE HOME

is the title of John Stokes' latest book. (Previous book *70 Years of Tubes and Valves.)* It is hard cover, large format and contains over 600 photographs and descriptions.

Although printed in New Zealand, it has an American flavor and will appeal to both the radio collector and historian. Collectors particularly will find it of great interest since it covers a brief history of many early American manufacturers: Atwater-Kent, Crosley, Majestic, Philco, Pilot, RCA, Stewart-Warner, Scott, etc.

Emphasis is on sets made in and imported by New Zealand, including British makes. An added feature is a beautiful cover jacket worthy of framing.

Available from: **Vestal Press, Jensen Road, Vestal, NY 13850** – $24.95 plus shipping. Now available. Write for information.

HISTORICAL ARTIFACTS

OLD TIME ADS are FREE to members interested in collecting and restoring early radio equipment for personal use.

RULES FOR ADS:

1. Only ONE per issue per member. Send SASE for acknowledgement.
2. Material must be over 25 years old and related to electronic communication.
3. Give full name, address and zip.
4. AWA will not repeat ads. Repeats require another notice.
5. The Association is not responsible for ANY transaction.
6. AWA retains the right to reduce size of ad if over SEVEN (7) lines.
7. AWA does not accept commercial advertising.
8. Deadline for ads:

FEBRUARY issue--DECEMBER 10
MAY issue ------MARCH 10
AUGUST issue----JUNE 10
NOVEMBER issue--SEPTEMBER 10

Ads received after the above dates will be discarded. Mail ALL ads to:

RICHARD RANSLEY
17 SHERIDAN ST.,AUBURN,NY 13021
(Do NOT send ads to Headquarters.)

WANTED

--HB-3 RCA Electron Tube Handbook. Industrial,receiving and transmitting tube technical bulletins by GE, Sylvania, etc, IRE Proceedings, 1930-1960's. Nick Tusa, K5EF, 129 Somerset, La Place, LA 70068 Tel. (504) 652-4904

--Hallicrafters Model R-44 speaker. Prefer original condition and no dents in case. Paul Jenkins, 172 Concord Circle, Panama City, FL 32405 (904) 769-0144

--all knobs for Hallicrafters HT 32 Series transmitters and SX 101 series of receivers. F.W. Nicholas, W7RBF, P.O. Box 37094, Phoenix,AZ 85069 Tel (602) 864-9987

--McIntosh,Marantz,Fisher early tube type Hi-Fi gear. Marcus Frisch,WA9IXP, Box 385, Elm Grove, WI (414) 545-5237

--Radiola III or IIIA with or without tubes, also would like any info or parts for Detrola 193E. Mark Land, 175A Spanish Trail, Rochester, NY 14612 Tel. (716) 865-0843

WANTED

--colorful bakelite radios such as Emerson, Gerod, Sentinel, Motorola,etc. Paying up to $500. for certain models. A. Scarfogliero, 13 4th Street, Brooklyn, NY 11231 (718) 858-1231

--books "Tin Foil to Stereo" and "Great Men in Electronics".Also Burns horn speaker thats hurting-object, make one good one out of parts of two.Also want Crosley "Rep-Wood" table model. Jerry Talbott, 1440 SW 239th, Hillsboro,OR 97123 Tel. (503) 649-6717

--copy of Radio Amateur Callbook Magazine for 1936 and 1946. Ralph Kuhnert, 1906 Bittersweet Drive, Holiday, FL 33590

--SW-3 . State condition and price. A. Obrist, 304 Windsor Dr., Dewitt, NY 13214

--help-need schematic,manual,coils, components,literature, etc. for restoration of a National 2 tube, screen grid shortwave tuner. Tom Norrie, 1174 Yale Ave., Wallingford, CT 06492

--Violet ray quack medical machines and ring microphones. Richard Cane, 8391 N.W. 21 St.,Sunrise,FL (305) 741-6838

--WWV or CHU receivers.Early transistor types any model,catalogs,manuals or incomplete assemblies. G.K. Barber, POB 31654, Aurora,CO 80041

--loop antenna for DeForest D7A receiver and three gang tuning condenser for Apex #36. R.J.Turner, PO Box #56, Hopkins,MN 55343 (612) 938-7809

--Wurlitzer horn speakers, radios and related items. Larry Babcock, 8095 Centre Ln., E. Amherst, NY 14051 Tel. (716) 741-3082

--old TV's. Need RCA sets for parts: 98K,99K,U30,U126,U128,U129,HF2,HF4. Have for sale or trade Sams 1-400 $75., Riders 1-23 $250., Riders 1-5,6-23 $200. Harry Poster, Box 1883, South Hackensack, NJ 07606 (201) 794-9606

--any McMurdo Silver electric set w/wo cabinet.Masterpiece I,II,III,IV,V,VI, 14-15,15-17,any literature. Also 1935-1939 Zenith consoles.Will pick up in most areas. Frank & Mary Rasada, 12507 Pinegrove Ln.,Cerritos,CA 90701 Call days (714) 951-9591, eves (213) 926-6722 and leave message

WANTED

--juvenile fiction books on radio and wireless by Breckenridge,Chapman,Collins, Desoto,Duffield,Hancock,Honeywell,Lawton, Marlow,Penrose,Snell,Theiss,Verrill, Webster,Wheeler and others. Alan Reed, Manitou Beach, MI 49253

--old QST's before 1928 needed to complete collection.Also looking for amateur spark equipment. Edward White, 2404 Hedgerow Dr., Wilington,DE 19810 Tel (302) 475-3355

--glass antenna insulators especially unusual shapes,colors,embossed,miniature and foreign. Jim Singleton, 77 Cochrane St., Melrose, MA 02176

--information on Peerless Wireless, Milo Bailey Eng.,Thomas E. Clark (TECLA), J.T.Boone Co., all of Detroit and other Michigan manufacturers such as ads, brochures,articles (photocopies ok), parts,tips welcomed. Oran Sauder, 316 Wellington, South Lyon, MI 48178 Tel. (313) 437-4413

--telegraph equipment and publications, including catalogs wanted. Dick Randall, K6ARE, 1263 Lakehurst Rd.,Livermore,CA 94550

--would like to hear from those who are octal tube fans 1935 on thru 40's. For me they were a high point of tube radios. Send SASE if you want to correspond. Ray Larson, 12241 Gorham, W. Los Angeles, CA 90049

--Atwater Kent #3902 detector unit,#4030 1 stage audio frequency amplifier and other AK breadboard parts. Pat Stewart, W7GVC, 1404 Ruth Ave., Walla Walla, WA 99362

--any information on a radio made by R.B. Radio Co., Model Page 6 made in 1925. Need tube lineup,schematic, etc. E.M. Fowler, 124 Holly Lane, Morehead City, NC 28557

--telegraph items for my large private collection.Interested in hard to find, rare bugs and keys,foreign and domestic.Also oil break and spark era keys. Gil Schlehman, 335 Indianapolis Ave., Downers Grove, IL 60515

--Heathkit Crystal Receiver, Model CR1. Jack Walker, R.D. 2,Box 143D, Bellevulle,PA 17004 Tel.(717) 935-2669

--new member wishes to buy entire collection or part thereof. Interests are in broadcast sets.Will pickup anywhere in NJ,NY or New England. Joe Infranca, K2KBU, 168-18 14th Ave., Whitestone, NY 11357

--chassis or parts for Stromberg Carlson 641-A.Same for Philco Mod. 37-600. Manual for data on Hickok Model 288-X signal gen. Ed Allison, 5525 20th Ave., Sacramento, CA 95820 (916) 454-1788

--shipboard RMCA ET-8019 (Navy equv. is TDB) transmitter. 1942 4-22MHZ,cw only, 200 w.,parallel 813's, no power supply. Will handle pack and ship thru your local shipper. W.J. Johnson, Jr.,KA3LRE, 1142 Hillsdale Ave.,Pittsburgh,PA 15216

--electrical/wireless magazines and books for a bibliography. Will buy, borrow or rent. Want list available. H.Goldman, RD3,Box 181, Glen Falls, NY 12801

--Hallicrafters S-35 panoramic receiver, National 7" TV,HRO-60,cabinet from Collins 75A or 32V. Sam Thompson,W6HDU, 1133 Polk St.,San Francisco,CA 94109 Tel. (415) 521-1429

--old broadcast microphones, studio equip.,catalogs, magazines, 9 inch Dia. Philco dial for #37-690 or 38-690, small screen and pre-war TV's,jukeboxes, Western Electric spkrs and top of the line console radios. Robert Van Dyke, Squires Ave., East Quogue,NY 11942

--instruction manual and/or schematic for Hallicrafters SX-100 and Hammarlund HQ-170. A.W. Beever,WØNHK, 620 W. Main Cross St., Palmyra,MO 63461

--Weston information for AWA paper. On your Weston wood base #1 meters need: Serial #,latest patent date,calib. date,have external zero adj.? Type of housing finish-brass,burnt amber (maroon) or black up to serial #10,000 only.Also repro catalog data on Weston #1 type prior to 1915.All correspondence acknowledged.Thanks. Leonard Cartwright, 113 Sea Terrace Way, Apto, CA 95003

--General Radio 544B and 544P3 manual or circuit diagram. J. Cadrecha,N1CCL, 292 S. Prospect St.,Burlington,VT 05401

--six 01A's inadvertently left at sellers car at Canandaigua. Please contact H. Newton, RD#1, Bridgeport,NY 13030 Tel. (315) 633-5780

--Radiola items wanted:Vocarola,Radiola RE,AR,Concert,IV,VI,VIIB/IX,Grand & AA-AR series (any).Also literature on Weston Model 440 galvanometer. Cash or trade on above. Mel Rosenthal, 507 South Maryland Ave.,Wilmington,DE 19804

--O & M manual/literature for a Hickok Model 615 TV Sweep & Marker Alignment Generator. Original manual preferred, but a good quality photocopy is OK. Bob Smith 14779 Kogan Drive,Woodbridge, VA 22193

WANTED

--looking for good sets of coils for National FX-7.Will pay cash or will trade.Have Leutz coils #2 and 3, Grebe #3. set of four coils in box for National SW2 or SW4. Lester Rayner, 5512 N. 71st Place, Scottsdale,AZ 85253 Tel. (602) 947-1375

--TV parts-width coil for Philco 49-1002,horiz. output trans RCA #71416 for 8TX30 or 730TV2. Howard Kohlbrenner, 2215 Clover Dr., Broomall,PA 19008 Tel. (215) 353-6073

--small bright colored radios and midget cathedrals. Eric Fogel, 2922 Barnes Ave., Apt. 6K, Bronx, NY 10467

--G.E. Model J-100 cathedral style radio. Need not be working, but should be complete with cabinet in good condition. R. Decker, 2656 Oneida, Utica, NY 13501

--Rider manual "Automatic Record Changers and Recorders". Also need Presto Model D recording heads that have 15 ohm impedance. Gaylord Ewing, P.O. Box 144, 36B. West Main St.,Morris, NY 13808

--small pointer knob for Super Zenith VII, VR pg. 116, brass tag for top right side of Grebe CR9.Have for sale Crosley Trirdyn 3R3 $75. plus shipping. Jim Barrows,W7BCT, 15121 41st Ave. S.E., Bothell, WA 98012, Tel. (206) 337-4880

--semi-automatic telegraph keys (bugs) made by R.L.Boulter,DeLaney,Lippencott, Thomas and United Electric. Need junk telegraph keys for parts. Neal McEwen, 1128 Midway, Richardson,TX 75081 Tel. (214) 234-1653

--portables from 40's-50's,Motorola Playmate Junior,Emerson 558 Jewel-Box, 558 maroon,RCA 1947 personal,Zenith Trans-O's.Also charts,maps and instructions for same. 67 1/2 and 4 1/2 V. battery eliminators which are good operationally. A. Sherry, 5410 Netherland Ave.,Riverdale, NY 10471

--schematic and/or info on Raven Radio (no mod. no.),TRF rcvr of mid 20's, 5 201A's in wood cabinet 21Lx9Hx12D.Uses A,B and C batteries.Most components on rear of front panel are potted. Rich Westerberg, 71 Vassar St., Rochester, NY 14607

--Berlant Concertone tape recorders, parts(junkers ok), and stereo conversion kits. Also want literature on same including list of shops that serviced them.Buy or trade.Two BK-401 Brush Soundmirrors available. Henry Schwartzman, 133 W. Fourth St., Corning, NY 14830

DISPOSE/TRADE

--National Type "A" Velvet vernier dials restored to near new condition with 140 mmf brass plate capacitor attached. $5 eachwhile they last.Many other parts for your pre-39 building. SASE for list. Marshall Etter,W2ER, Rte #2, 16 Fairline Drive, East Quogue, NY 11942 Add for UPS

--Two WD-12 RCA tubes $30. 18 German WWII tubes $35. plus shipping. F.W. Chapman, Apartment B 218, 1130 N. Lake Parker Ave.,Lakeland, FL 33805

--Philco Toning Lacquer as used originally by Philco and others to get that dark finish.Br. mahogany or medium walnut. $5. per spray can plus $1.50 shipping. SASE for list of other shades and info on how to use. D. SZablewski, 1204 Andrews Ave., Lakewood, OH 44107

--James Fred is publishing the Antique Radio Collector Newsletter for the third year. Send $1.50 for a sample copy or $7.50 for 6 issues. Antique Radio Publications, R1, Box 41, Cutler, IN 46920

--radio related tie clasps,lapel pins, RCA-GE-Philco,etc.Full enamel emblems. Send SASE for list. Michael S. Sabodish Sr., 11-A Matawan Avenue, Cliffwood, NJ 07721

--HP608D rf signal generator VHF/UHF with instruction manual,coax cables and cal sticker. Will ship. $300. Gordon Wilson, 11108- 50 Avenue, Edmonton, Alberta, Canada T6H 0H9

--over 5000 tubes from 1920's to 60's. Many types,mostly new in original cartons including new xmitting tubes as 250TL,450TL,810 etc. $275 for all,with $75. rebate and an additional 1000 tubes free if you pick up here. 24 boxes. E.J. Antione, RR #2, Hope, British Columbia, Canada VOX ILO Tel. (604) 869-2076

--QST's 1921-34 covers present on all but Nov 21 and Feb 22,good cond. some have been repaired. $325. QST Aug,Sept, Nov,Dec 1920 with covers,good cond. $15 each.Aeriola Jr. crystal set without box, v.g. cond. $50. Filament Voltmeter for Radiola 25 $12. Bill Hurni, W3HWT, 329 Evergreen Dr., North Wales,PA 19454

--National 7 in. TV in metal cabinet and National HFS with pwr supply. Sam Thompson,W6HDU, 1031 San Antonio Ave., Alameda,CA 94501 (415) 521-1329 evenings

--tubes-selling 60 year collection. SASE for lest. Earl M. Reichman,W8NBK, Box 218, Dennison, OH 44621

DISPOSE/TRADE

--Philco 90 spkr $15,Western Electric 202A Reproducer set (1929) $200, Zenith 1930 Robot-Dial console 9S262 $175 or trade,Zenith 6S27 Tombstone (trade). Other RCA's,Majestics,Zeniths,etc. for sale or trade. Bill Moore, 1005 Fieldstone Ct.,Huntsville,AL 35803 Tel.(205) 880-1207

--trade Zenith H500 Transoceanic with original manual.Silvertone 6266. Farnsworth GP-350, all working and in excellent cond. Will trade for battery sets or ac sets of 30's and 40's. Sam Rotundo, 10 Van Vorst St., Utica, NY 13501

--Crosley 5-50 in good condition, no tubes, $25 plus 20 lbs. UPS. Also 1950 vintage pushbutton car radio Mopar Model 606, $15. plus 16 lbs. UPS. John Uscinowski,KE20, RR#1, Box 379, Greenwich, NY 12834

--Shortwave sets,AK breadboard parts, tubes magazines, Riders manuals, test equipment and more. SASE with 2 stamps. F. Krantz, 100 Osage Ave., Somerdale, NJ 08083

--from 2 estates: 6 groups QST 1916 to 1986,ARRL Handbooks,Call Books R9/Radio, CQ,73,Ham,IEEE,Broadcast Eng. Journal, Radio News,Keys,large xmitting vacuum and fixed capacitors,over 400 old and industrial & special purpose tubes. Large SASE J. Wasiewicz, 229 Sarles Lane, Pleasantville,NY 10570

--National Radio Institute 34 booklets 1931 $20.,45 booklets 1937,38,39 $20, 60 booklets 1943,44 $18, 18 booklets 1947 in good condition $3. (all others in very good cond. All plus postage. H. Fothe, 10 Jackson St.,Sloatsburg,NY 10974

--1918 Connecticut spark transmitter BC-15A used in airplanes. Pg.34 of VR Prefer to swap for an early crystal or other detector/wireless. Michael Payne, RT 5, Box 796, Alvin, TX 77511

--large list of radio, television and electricity books. Send SASE with specific wants. Looking for books on wireless, early electricity,telegraphy, magazines,advertising and autographs. One item or whole collections. James Kreuzer, N2GHD, 6270 Clinton St., Elma, NY 14059 Tel. (716) 681-3186

--Radiola loop antenna wire with brown woven cloth covering. 15¢/ft or 500' spool for $40 (=8¢/ft).Add $2.50 shipping. SASE for free sample. Bob Goodman, 7943 Ponce Canoga Pk.,CA 91304

--Sell McElroy bug. Trade 4 WD-11 brass, King,AK-green and DeForest LS300 horn spkrs,American SJ,carbon mike in ring (1936) AK TA 2 tube,Radio Age Vol I, #1 & bound 1st 12 issues,some Radio Retailing.Want unusual horn speakers. Floyd Paul, 1545 Raymond, Glendale,CA 91201

--AK cabinet only.Remler xfmrs,type 600 and 610. WWII RTA-1B(ARC-9),perfect w/ manual. R-394/U & P.S. CW-46196 recvr (P/OZBX), BC-683,BC-923A,RA-62C,PE-94A, RT-9,PP-11A,CY-77,AS-83,all/PPN-1. TM 11-850 for BC-312,314,342,344. W. Bauer, 119 No. Birchwood Av., Louisville,KY 40206 (502) 895-3275

--schematics 1920-60 for radio,tv,PA, ham,misc. Your $3.50 investment returned if I can't supply at least your schematic.Send description in first letter. Want Riders Vol. 23 and RCA Victor Service Data Vol. I. Alton Bowman, RD2, Chapin Vlg., Canandaigua, NY 14424

--UZ 1325 horn speaker in excellent condition $75. plus shipping.Also transistorized tubes for small sets to operate on one battery. $10. each. Bud Bedker, 66 Cloverside Ct.,West Seneca, NY 14224

--Rider's TV manuals Vol. 3 thru 7 $8. ea or all five for $16. Al Smith, Stonehedge, Lincoln, MA 01773

--Hallicrafters TD1 xmtr complete and working 1939 vintage. Also couple of interesting early telegraph keys. Anthony Musero, 1609 So. Isemenger St., Philadelphia, PA 19148 (215) 271-8898

--reducing collection,AC console and table radios including Philco Mystery Control.1948 and up B&W TV consoles and table models-several makes.Early RCA color TVs,test equipment. SASE for list. Want AK84 chassis. Dennis Smith,Box 113, Trenton,MI 48183

--Grebe CR9 With tubes,works, Grebe CR12 with no transformers or tubes, Westinghouse RA/DA, no tubes with one bad audio,Radiola V RF unit w/ original crystal,Radiola 25, no tubes. Make offer J.C.Harper, Rt3, Box 283, Easton,MD 21601

--You can build your own Mechanical Television system. Information is available from Peter Yanczer, 835 Bricken, St.Louis,MO 63122

--Radio! Radio! Jonathan Hill has published the most complete book on British radios from Marconi to the 1960's. Almost 1000 photos,242 pages 8½x12. $19.95 paperback,$29.95 hardback,plus $2.50 P&H. Howard Stone, 2825 6th Ave., Fort Worth, TX 76110

SOME THOUGHTS ON COLLECTING "ANTIQUE" SEMICONDUCTORS

by Ludwell Sibley

The transistor was invented in late 1947, or almost 40 years ago. As a result, it's time to think about collecting early semiconductors as a new specialty. The devices are still available without too much trouble, and it is certainly appropriate to start preserving them for the future.

Many of us built one-transistor radios back in the Fifties, using a CK722, 2N34, 2N107, 2N167, or one of the other "*experimenter*" units. While these particular units were pretty primitive by today's standards, they worked surprisingly well. Such units form a natural starting point for collecting.

With a little luck, earlier devices can be located. As shown in the photo, the earliest point-contact designs came in unique cases. The one on the left is a Bell Laboratories A-1698: an early developmental unit housed in a metal cartridge with a brass end plug, wax filling, and hand lettering. The middle is of the same type, but with a piece of plastic tubing covering the wax-fill hole, stamped lettering, and a "3-53" date code.

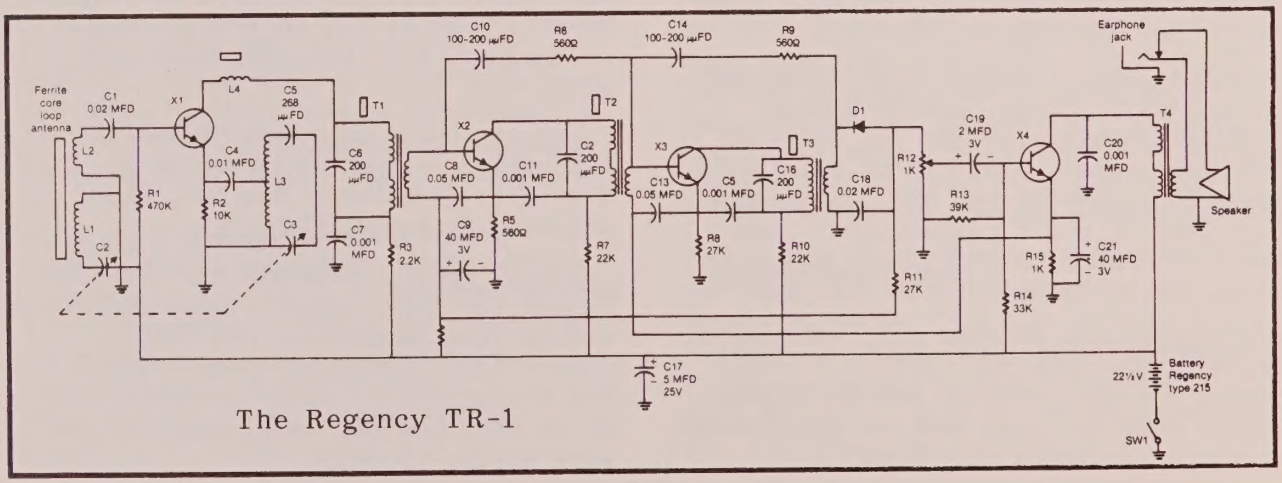
These devices are of the same physical design as the experimental unit illustrated in a 1949 issue of the Bell System Technical Journal (J. Bardeen and W. H. Brattain, "*Physical Principles Involved in Transistor Action*", vol. 28, pp. 239-277). The unit on the right is a Western Electric 2A transistor with "12-53" date. This particular type was used in the first commercial application of transistors. It was a photocell amplifier used along with the Western Electric 3A "*transistor*" (actually a photodiode) in an optical card reader in the "*card translator*" unit of the Bell System No. 4A crossbar telephone toll switch. The thick legs extending to both sides of the 2A in the photo are tinned strap leads welded to the contact pins.

Other transistors had significant histories: for example, the Texas Instruments TI210, TI222, and TI233 devices used in the Regency TR-1 pocket radio. The TR-1 opened the field of mass-market solid-state electronics in late 1954. TR-1 enthusiasts will enjoy "*The Secret Six-Month Project*" in the December 1985 issue of the IEEE Spectrum – it is an excellent six-page history of the design and marketing of this radio. As another "*first*", the Bell Labs A1723 unit appeared in the first military solid-state application, a 1600-Hz oscillator contained in a lineman's test set for use with the AN/TCC-7 portable carrier telephone system beginning around 1953.

Most transistors in common packages like the TO-3 or TO-5 look alike and lack excitment. The earlier ones, however, came in a nice variety of case styles. The original power transistors, in particular, used an endless variety of packages: round, square, stud-mounted, press-in, internally threaded, etc. This variety alone is interesting for collection purposes.

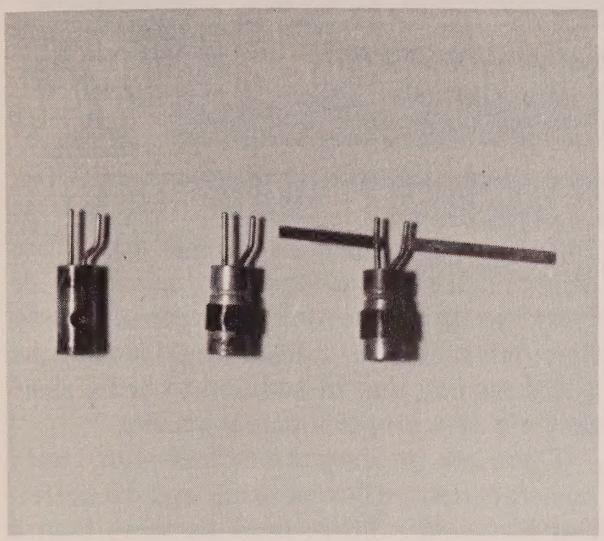
Diodes are also good fare for collecting, ranging from the silicon radar-mixer devices of World War II through modern designs. The photo shows a couple of early power rectifiers from the mid-Fifties (a Sarkes-Tarzian M-500 and a Philco 34-8048-1), along with a modern 1N4006 for comparison. To illustrate how devices have improved: the 1N4006 is rated for twice the voltage and twice the current of the M-500, while selling for one-fiftieth (!) the price after adjusting for inflation of the dollar.

Like transistors, diodes come in a wide variety of styles. The humble 1N34, for example, was available in a ceramic tube with end caps

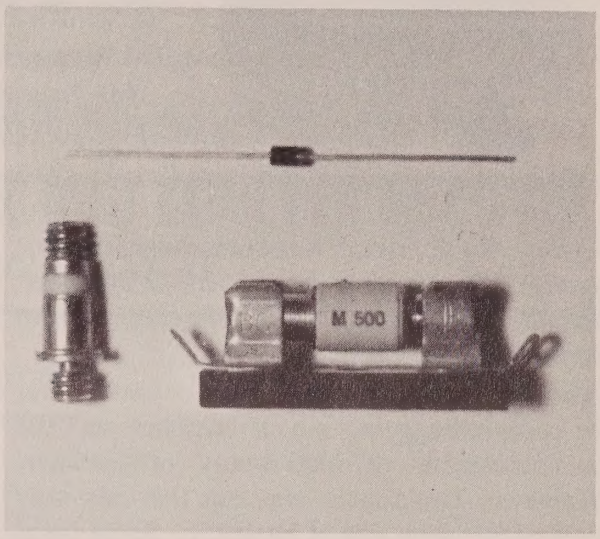


The Regency TR-1

Examples of Early Transistors



Left to right:
1.) Early BTL A-1698
2.) Late BTL A-1698
3.) W.E. Co. 2-A



Top - 1N4006
Left - Sarkes-Tarzian M-500
Right - Philco

dual units, etc.

Here are some examples of other interesting devices: early zener diodes (the 1N200-1N222 family), antique photodiodes (the 1N77 from 1952), "old" light-emitting diodes (1N5765, rather high number in the 1Nxxxx series), the first varactors (1N950, etc.), early tunnel diodes (1N2927), old-time PNPN diodes (2N2322), antique Japanese transistors (2SA12), the initial unijunctions (2N489), early thyristors (3N58, 2N681), surface-barrier RF transistors (the Philco SB100 and 2N345), and so on.

Part of the fun is uncovering brand names of manufacturers that have long since vanished through merger or liquidation. Here are some examples:

CBS-Hytron
Clevite Transistor Corporation
Diodes Incorporated
Federated Semi-Conductor
Gemco
Germanium Products Co.
Hydro-Aire, Inc.
Industro Transistor Corporation
Leland Airborne Products
Pacific Semiconductor Inc.,
Philco
Pirgo Electronics, Inc.
Radio Receptor
Shockley Transistor
Solar Systems, Inc.
Solid-State Products
Transistor Products, Inc.
Transitron Electric Corp.
U. S. Transistor Corp.

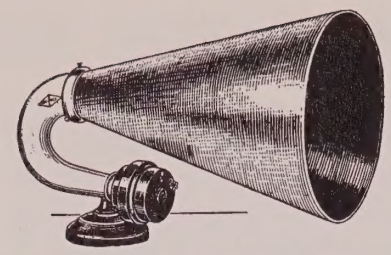
The early products were made in places like Burbank, Laureldale, Newburyport, Salem, North Adams, Skokie, and Syosset. At the time, Silicon Valley was still mostly apricot orchards.

An organized collector market for solid-state devices does not seem to have developed yet. So finding these items is mainly a matter of keeping one's eyes open at electronic flea markets and similar sales. It is not unknown for new boxed semiconductors to turn up at hamfests, for example, a large box of new-old-stock 2N34s. One local auction that liquidated a small electronic development lab turned up a nice junkbox of early devices. One can also get some surprising answers by just asking friends what they have in their basements.

While this article deals mainly with collecting early solid-state devices, a few thoughts on the equipment that used them may be of interest. Collectors have been looking for the original transistor radios for some time now. However, solid-state hearing aids were on the market earlier but seem to receiver less interest. Old-time experimenter equipment– code-practice oscillators, one-stage transistor radios – are quite scarce: there are a lot more one-tube radios from the Twenties around than one-transistor sets from the Fifties.

(Sylvania), an early glass-metal package with tapered solder caps (RCA), a ceramic shell with end plugs (Kemtron), a plastic tube with

(Continued on next page.)



The LOUDSPEAKER

Editor: Floyd Paul, W6THU
1545 Raymond, Glendale, California 91201
All correspondence requires SASE for reply

Que: *Much interest has been shown in companies starting up a horn speaker business, but has anyone studied when these companies went out of business?*

Ans: The best obituary listing for horn speaker companies going out of business was the announcement of bankruptcy proceedings. However, bankruptcy was not the only way companies went out of business. Some companies just plain quit and others sold to or merged with another company. The following listing was developed from *Radio Retailing* and Jobber trade publications headquartered in Albany, New York.

July 1925 Ackerman Co. - Closes doors
Dec. 1925 Voluma - bankruptcy
Jan. 1926 Jewett - abandons horn products
Feb. 1926 Interocean - bankruptcy
Apr. 1926 Music Master - receivership
May 1926 Bel Canto - bankruptcy
Aug. 1926 R. E. Thompson - receivership
July 1927 Reichmann - bankruptcy

Que: *Radio horn speakers come in a variety of shapes and sizes. Has any size standard been developed to classify horns as large, small or other size description?*

Ans: Not to my knowledge. However, I'd like to suggest a sizing definition. If a horn stands under 12" in height, I'd like to attach the word "*mini*" to it and if it stands less than 6" in height I'd like to attach the word "*sub-mini*" or "*tiny*" to it. I believe these words are pretty descriptive. The definitions would include the understanding that in addition to being short they are also proportionately smaller.

There are at least three "*sub-mini*" horn manufacturers: Tower, Rice and Hochster, and Piroxloid. There must be more than a dozen horns in the "*mini*" category. The British made a number of "*mini*" horn speakers.

Que: *You have been collecting horns for some time. What were the last few horns you obtained and why did you get those particular horns?*

Ans: (Must I tell my secrets?) In my collection of 142 different radio horns there are many representative shapes and sizes. I tend to collect unique or different styles that I don't have. The last few I obtained had the following interesting feature. (primary reason for acquisition)

Brown, H-2, (English) - Mini in size
Firth, Vocaloud - Rare and early
Tower, Scientific - Sub-mini
DeForest, LS 300 - Rare
Conduit Wireless Co., Magnora (English) - Sub-mini

(Author's notes: There has been a trend toward collecting smaller radio sets in the past few years. I suspect other radio components, such as speakers, will follow suit. Happy Hunting.)

(Continued from previous page.)

metal end fittings (GE), an interesting octagonal tapered molded design (Radio Receptor), and today's small fused-glass package.

A good number of collecting specialties are possible. Point-contact transistors have obvious appeal because of their age. Unfortunately, they became obsolete so fast after development of the junction transistor that they are now rather rare. Of the 6000-plus items registered in the 2Nxxxx series, only fifteen types were point-contact: the 2N22-2N26, 2N30-2N33, 2N50-2N53, 2N72, and 2N110. So other items are more attainable. The 3Nxxx series contains interesting but scarce devices: early dual-gate (tetrode) field-effect transistors, some dual units, etc.

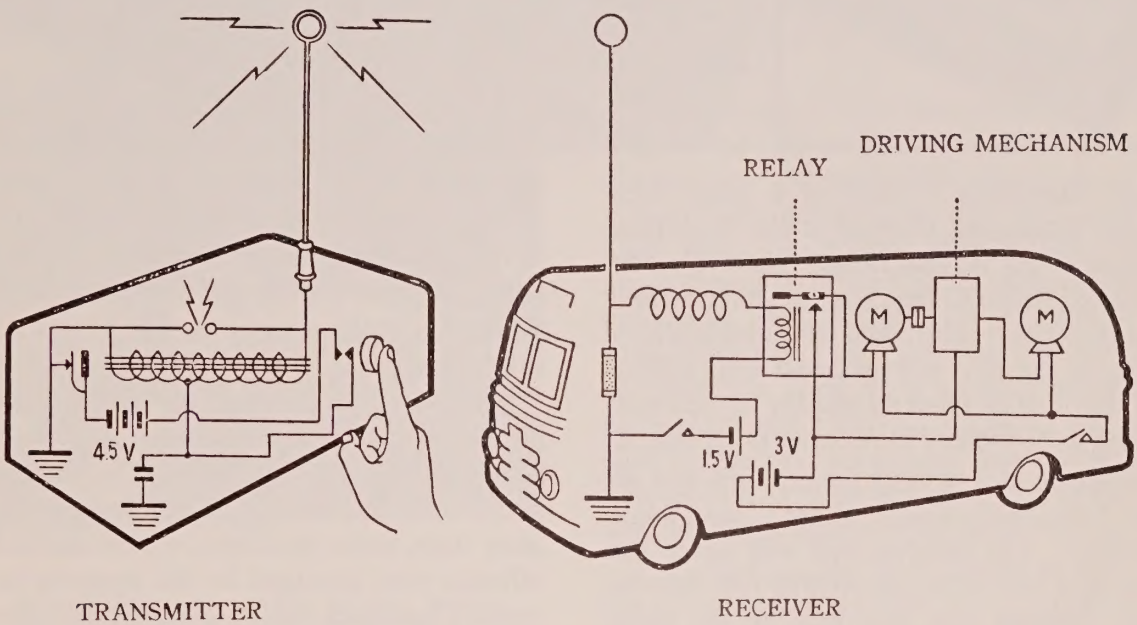
The AN/AIC-10 aircraft intercom (ca. 1954) was one initial military use of the new technology, coming soon after the lineman's set from the AN/TCC-7 mentioned earlier. The telephone industry had retired the last card translators in its No. 4A crossbar systems by about ten years ago, making the translator's pioneering phototransistor assembly scarce indeed. (The 4A machines themselves, modernized or not, are essentially all gone today.) Perhaps if collector interest grows some of this early equipment will come out on the market.

JUNIOR WIRELESS CLUB
Devoted to wireless development before 1912

A 1950 SPARK TRANSMITTER AND COHERER RECEIVER

by Ned Junker, KA2DZC

CIRCUIT



I told Bruce Kelley I had a relatively modern radio-controlled toy with a coherer receiver controlled by a spark transmitter. He didn't believe me, so I brought it to the Spring Work Party and proved it by having it run along the concrete floor in the AWA Annex.

It seems in the early 1950's my brother-in-law bought a toy bus for his son. Look at the schematic – a real old-fashioned spark transmitter of the Model "T" Ford vibrator coil type. The receiver is more unique.

It uses a coherer consisting of a glass filled tube filled with a loose mixture of silver and nickel filings with conductive plugs at each end. "*Hertizian Waves*" from the spark transmitter coheres the filings, lowering the resistance which actuates the relay and the motor in a sequence.

The coherer is mounted on a spring suspension and the motor operating the steering also operates a "*whacker*" which hits the coherer mount, loosening the filings (decohere). The sequence is: "off-left-center-right-off". There is a separate motor with a manual switch to drive the bus. The makers were very proud of the ten-foot range! Six "D" cells are required for operation and it really chews into them. I do not know the operating frequency. It is obviously quite high and broad.

MYSTERY RADIO

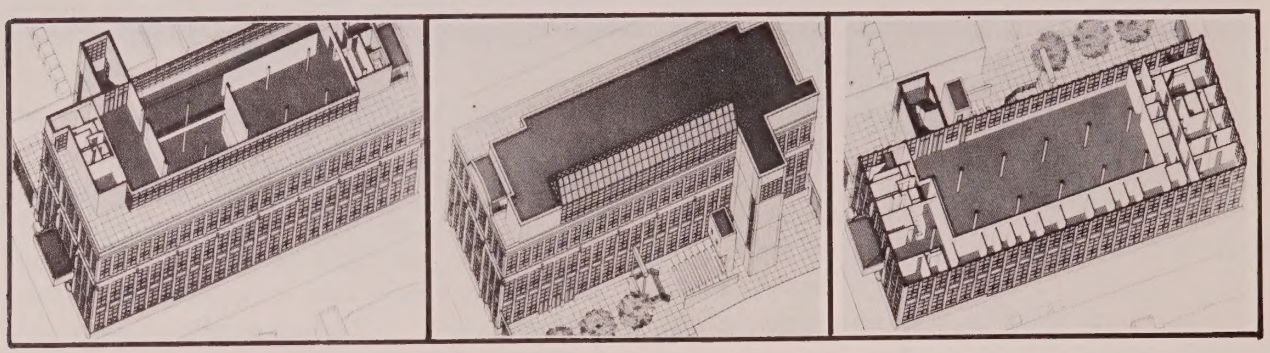
in the December *OTB* brought several letters telling of a like radio but instead of a cigarette dispenser, the miniature receiver cabinet held a crystal set receiver!

The TELEVISION RECEIVER

Editor: Jack Davis
63 Midchester Ave., White Plains, NY 10606
All correspondence requires SASE for reply

MUSEUM OF THE MOVING IMAGE

by Jack M. Davis



Last September I received a letter from Richard Koszarski, Curator of the American Museum of the Moving Image. He told me he had visited Bruce Kelley, who had referred him to me as someone who could advise him on how to best use the early televison and radio collections they had on hand for display in their new building to be located in Astoria, Long Island.

Having no idea of what the museum was all about, I decided to visit it. What I found was a revelation. The building that will house the Museum is part of the historically rich Astoria studio complex that was built in the early 1920's by Paramount Studios. In its heyday, over 100 silent movies and 36 talkies were made between 1920 and 1932 and all of the early superstars – such as Gloria Swanson, Rudolf Valentino, Edward G. Robinson, Claudette Colbert and the Marx Brothers – worked there.

Thousands of people were employed and the sprawling complex was second only to Hollywood in film production. This was all to end, however, during the depression years, when most film making activity moved to the West Coast. By the late thirties, the site had just been abandoned.

But a reprieve was granted with the advent of WWII and the U.S. Army charging to the rescue by taking it over as its pictorial center. Most of the training films which recruits were shown during WWII were made there, as well as propaganda films such as "*Face to Face With Communism*".

Under Congressional pressure to disperse its film work to private contractors, the Army left Astoria in 1971, giving the studio to the City University of New York for "*educational purposes*". Nobody seemed to be able to figure out how to use the property and there was reason to believe the entire complex would be torn down rather than to continue to decay.

Once again it escaped the wrecker's ball. Highly motivated individuals became involved in preserving the studios. They included people who had been present during the early glory days, union members, writers and public officials who arranged for the property to be granted landmark status. This, in turn, allowed the city to take over and lease it to a non-profit organization– The Astoria Motion Picture and Television Foundation.

With the studio operational, there followed a series of first class movies including, *Hair*, *All That Jazz*, *Going in Style*,*Eyewitness*, *Arthur*, and *The World According to Garp*.

Needing a fresh infusion of capital, a new partner, George Kaufman, entered the scene. Among his co-investors were such celebrities as Johnny Carson, Alan King, Gregory Peck and Neil Simon. New sound stages and recording studios were added and the governing board, a combination of the city, private enterprise and public foundation conceived a program that would concentrate on saving the history of Astoria's halcyon days.

The driving force behind this effort is Rochelle Slovin who was chosen to be the project's executive director. She helped find a new name with a kind of easy acronym, AMMI, which stands for the American Museum of the Moving Image. Under the guidance, the muse-

um has acquired 60,000 objects, including one of the world's largest collections of 3-D apparatus; an impressive collection of set models; props and costumes; a vast store of Valentino material; and even the yellow brick road used in "*The Wiz*". Alas, it was only linoleum!

Scene from an early silent movie being made at the old studios.

And so it came to pass that AWA member and AMMI curator, Richard Koszarski, visited the AWA museum and got my name from Bruce Kelley as someone who could help in setting up that portion of their new building housing early television and motion picture exhibits. When I received the letter from them, inviting me to Astoria and a viewing of their artifacts, I gladly accepted. So impressive was the project and knowing that Bruce would share my interest, a suggestion was made that he, too, should see it.

Bruce is a nostalgia buff, and when he came to New York City for the annual Radio Club of America dinner, he agreed to go out with me. We left New York City for what should have been a 15 minute drive, just over the Queensboro Bridge, to 36th Street, where the studios were located. A combination of road construction, driving rain and the goldurndest traffic stretched the outward leg to an hour (and Bruce's patience, as well). When we finally arrived, drenched, the car illegally parked, we discovered the immensity of the building as we wandered through acres of corridors until we corraled a friendly young miss who took pity and led us to the portion that was occupied by the AMMI executives.

During our journey through the corridors, Bruce brightened as he passed scores of scenes from movies of the twenties that were on display. It seems that the stills were processed by Eastman Kodak in Rochester and as such, they were quickly recognized by him. Bruce was further delighted when Richard Koszarski gave us a personally escorted tour and we saw not only the exhibits that had already been assembled but room after room of artifacts that were still unsorted.

Richard told us of the plans that were underway for the "*Masterpieces of Moving Image Technology*" exhibition which will occupy the ground floor galleries of their new building. They expect to feature forty to fifty items, about fifteen to twenty being early television apparatus. While the museum already has some of the latter, they will gladly accept loans of significant items such as mechanical sets, early electronic receivers, cameras and other early examples of the period. Any AWA members interested in participating in this exciting venture can contact me for additional details.

Time flew quickly as we discussed AMMI's future and before we knew it, the building was emptying out. Richard led us to the windswept and deserted streets (fortunately my car was still there) and we headed for Manhattan. The homeward horror, compounded now by rush hour traffic and the closing of the upper part of the bridge gave us a ride back that neither of us will forget as we set a new record for stretching out a fifteen minute ride. Bruce was going to the theater that night and I guess he just about made the opening curtain. By the next evening, at the Radio Club dinner, we had an interesting story to add to the annals of driving in New York City.

But all's well that ends well. We saw a project being born that will add richly to the cultural life of the metropolitan area. The sponsors feel that eventually it can become as great a tourist attraction as the Universal Studios in Hollywood.

So, include the AMMI on your list of places to visit – go by subway, bus or other public transportation BUT DON'T DRIVE THERE ON A RAINY AFTERNOON!

UNUSUAL RECEIVERS

Editor: Dan Boucicault
Madison, Wisconsin

I have been asked to tell about some of the unusual receivers in my collection. One which I prize highly is the transistorized receiver built in a pair of eyeglasses.

The set uses small disc type batteries. The left bow contains the "*off-on-switch*" and volume control plus the earphone which fits into the ear. (See illustration.) The opposite bow has a small tuning dial with numbers "6" and "15". Three small black wires run along the top of the frame connecting the two sections.

The lenses are planos with a slight tint. I cannot find any markings indicating the manufacturer. Neither can I date the set. I am inclined to believe it was made in the 1960's.

Editor's note: Dan has been collecting unusual and odd appearing receivers for several years. He will describe several of his sets as well as those of members in this column.

ELECTRICAL AND ELECTRONIC TECHNOLOGIES

A Chronology of Events and Inventors from 1940 to 1980

by Henry B. O. Davis

321 pages 1985 $25.00

SCARECROW PRESS, INC.
P.O. Box 656, Metuchen, NJ 08840

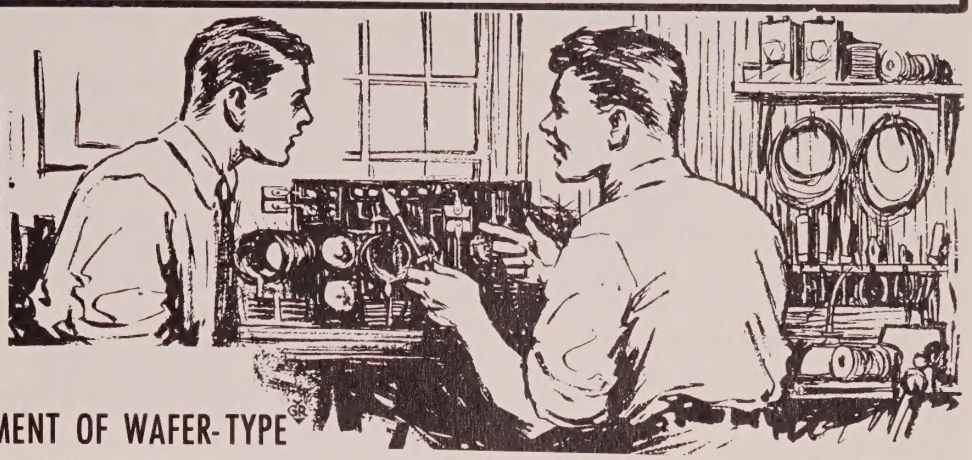
Recorded here are the outstanding achievements of scientists and inventors, men and women of many nations whose work has given us integrated circuits, microcomputers, space exploration, high resolution radar, moonbounce communication, and radio astronomy. Each decade is prefaced with a summary, followed by a year-by-year account of pertinent events of both major and minor significance. With a comprehensive index and a bibliography.

This is the third in a series of books written by Davis, all of which have been reviewed in the *OTB*. Excerpts: Lengthy listing of vacuum tube release dates, amateur radio technical achievements, brief history of numerous companies such as Sony, Hewlett-Packard, Teledyne, etc. A total of 1271 information entries!

WITH THE COLLECTORS

PROBLEM SOLVERS

Carl Ziegler
Fairport, N.Y.



SUBJECT: REPLACEMENT OF WAFER-TYPE ROTARY SWITCH CONTACTS

Wafer-type rotary switches, used in early AC sets and test instruments, are sometimes found with broken contact positions, often caused by misalignment or moisture corrosion. These contacts can be replaced with the same size contact from a spare switch wafer. The replacement procedure is as follows:

1. Dismantle the switch assembly and access the wafer with the defective contact.
2. Determine the largest diameter "*wire*" guage drill that will fit through the eyelet which fastens the broken contact to the wafer.
3. Place the next larger-sized drill in a pin vise (or equivalent holder) and twist the drill completely through the eyelet, cutting away the eyelet center.
4. Repeat Step 3 with successively larger drills until the eyelet begins to spin in place.
5. Run a small, round needle file, at an angle, all around the inside of the eyelet hole until the top (contact side) swedge of the eyelet breaks free, leaving the lower swedge and eyelet center in tact.
6. Remove the old broken contact and discard only the contact.
7. Using an appropriately sized tap, thread the eyelet center. If the eyelet starts to spin, hold the lower eyelet swedge against the wafer with serratted-jaw needle nose pliers and continue tapping.
8. Repeat Steps 3 through 6 on the spare wafer to extract the replacement contact, however do not discard this contact.
9. Screw the new contact into the tapped eyelet of the old wafer using a short length screw of the same thread size as the tap used in Step 7. Make sure the screw head is small enough not to bridge the adjoining contacts.
10. Reassemble the restored switch and reinstall.

-- Richard Brown, Springfield, NJ

CLEANING ALUMINUM

Don't laugh, but I found (quite by chance) that one of the best methods of obtaining nice shiny aluminum variable condensers is with the acid from tomatoes.

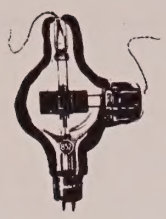
Fill a steel pot with several old tomatoes from the garden plus scrap skins, etc. Place several variable condensers with aluminum plates in the pot, and water and stew for a couple hours. You will be amazed at the results when removed and washed.

Apparently the acid in the tomatoes removes the accumulated aluminum oxide and leaves a shiny surface. I tried vinegar with less dramatic results. -- Tim Walker, N2GIG

GRID LEAK REPAIR

About 40% of all grid leaks I acquired have been defective. These have been restored using the following procedure: Heat up the end caps with a soldering iron and carefully remove them. Push out the defective inner resistor if it still remains inside the glass tube. Clean out the tube with a Qtip and set it aside. Next, clean out the two end caps using solder wick. I then drill each end cap with a #65 drill. Before final assembly make sure both sides of the drilled holes are clean and bright.

Apply a small amount of Pliobond cement to one side of the cap, insert a ¼ watt film resistor and slide into the glass tube. Treat the other end cap and slide onto tube. Center the new grid leak in the tube and solder both end caps to the resistor. Make sure the value of the new leak is the same as the value marked on the outside of the glass tube. The finished job is better than new and does not change the appearance of the original grid leak. *Gil, W2HIN*



THE VACUUM TUBE

Editor: Bro. Patrick Dowd, F.S.C., W2GK

SUPPLEMENT TO THE 201/201A LISTING

When listing 201's (as noted in the November *OTB*), the tube collector should go one step further and also note the physical characteristics. Listed below are the Identification Codes which may apply to each tube. This will enable the collector to identify the variants.

BASE:

BB - Brass Base
CB - Composition Base (Black)
IB - Isolantite Base
MB - Metal Base other than Brass
RB - Reddish Composition Base
GB - Greenish Composition Base
YB - Yellowish Composition Base

PINS:

UV - Short pins
UX - Long pins
BP - Brass pins
NP - Nickel-plated

BULB:

PS - Pear-shaped
PT - Pear-shaped + Tip
TG - Tubular Glass Bulb
WG - Wide-glass Bulb (Daven Type)
MD - Modern Glass Dome
MG - Metal/Glass Construction
BG - Blue-glass Bulb
FG - Frosted-glass Bulb
YG - Yellow-glass Bulb

LABEL:

PL - Paper Label
SL - Stamped Label (Paint/Ink)
DL - Die-stamped Label (Metal Base)
HL - Hot-shoed Label (Composition Base)
EL - Etched on Bulb

The response for additional brand names has been excellent but there still may be more. Please check your tube listings, old advertisements and catalogs and see if you can find brands other than those noted in my original list of 300. Please send new names to:

Bro. PatrickDowd
425 Paramus Rd.
Paramus, New Jersey 07652

DID YOU KNOW – –

that some of the odd-ball name tubes made years ago were rejects made by well-known manufacturers? This could account for some of the little-known manufacturers in Bro. Pat's 201-A list. The following editorial tells the story.

GRADING TUBES: A, B, and C

The practice of some vacuum tube manufacturers to market their normal rejects under different brand names, is to be deplored. The individual manufacturer indulging in such practice, quite as well as the industry at large, is the loser, and if this point were better appreciated, the practice would soon cease.

Of course no manufacturer enjoys the high shrinkage to which vacuum tube production is subject. The rejection of anywhere from 5 to 50 per cent of the tubes produced is at once cruel and costly. Indeed, more than any other factor, the high percentage of rejections in honest tube production makes for high production costs.

Nevertheless, just as a farmer must separate the good apples from the bad, so must the honest vacuum tube manufacturer distinguish between good tubes and bad tubes. There is no middle ground.

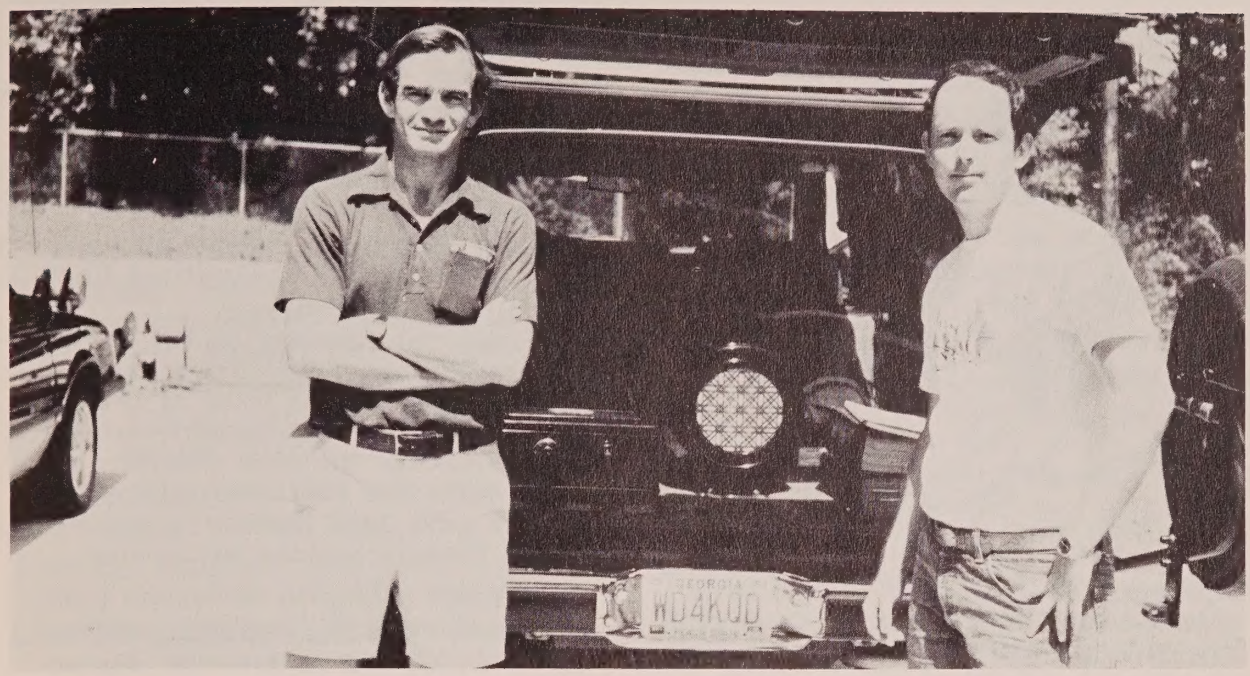
We maintain – and this view is based on what we have seen in some tube plants – that unless the policy of the tube manufacturer is to turn out good tubes only, that manufacturer is not building for the future. In plants where the A B C system of grading is employed, the personnel is not very much concerned about turning out as many A grade tubes as possible.

In other plants, where the tube is either good or it is discarded, the personnel is compelled to concentrate on good tubes. There is positively no salvage, as in the case of the plants selling B and C grades. We have come across instances where tube manufacturers ship out their entire production as A grade, and those returned as off-standard are again shipped out as B grade, while those returned as worthless are once more shipped out as C grade.

A most unfortunate state of affairs, this situation, but we firmly believe that it will cure itself in time.

(Copy from Sept. 1929 *Radio Engineering* magazine.)

COLLECTORS MEET IN GEORGIA



Jerry Wilson

Charles Pierce

It is not uncommon for small groups to get together for informal swap sessions and a good time. Such an event took place when 34 collectors from Georgia, Alabama, North and South Carolina gathered at Larry Flegle's home for early coffee and doughnuts, flea market, then noon lunch of hot dogs and ending with a swim in a nearby pool. Sounds like fun.

The Radio Club of America

ANNUAL BANQUET

A large group of AWA members attended the recent RCA Annual banquet and Technical sessions in New York City. Here are a few I remember seeing at the cocktail hour:W1NTE,W2HX,W2GK,W2WIY, W2GHK,W2GRX,N2ATT,W5KL,W6ZZ,WØGFQ and HB9RS. In addition, there were also Thurmond Henderson,Fred Shunaman and Jack Davis. Who did I miss?

One always leaves such affairs with certain impressions. Here are mine:

--Best speaker: Brig. General Leland Smith.
--Amusing speaker: Dr. George Brown
--Most important person: Fred Link.
--Best technical speaker: Bro. Patrick Dowd.
--Hardest working person: Stu Meyer.
--Missing person: Don deNeuf to receive the Batcher Award.
--Most annoying feature: A high-power spotlight directed at speaker.
--Location and dinner: Excellent.
--Pocketbook: Costly ($60.) but what good is money if you don't spend it.
--Overall impression: Had great time. Will return next year.

George Puglsey (V.P. of Teledyne Kenetics) and I stayed at the nearby Gorham Hotel (a favorite hostel for AWA members on 55th between 6th and 7th Ave.) Here Jack Davis, AWA TV Editor, amazed us with a video tape showing his large collection of pre-War TV sets ALL in operation. We also visited the Manhattan College Tube Exhibit and "The Museum for the Moving Image"... but that is Jack's story.... BK

TV COLLECTORS will find the new "*AWA REVIEW*": a valuable source of information on the work of TV pioneer Philo Farnsworth. Cost only $7.50 including mailing. Send check to: Dex Deeley, 8 Briar Circle, Rochester, New York 14618.

HAVE YOU RESTORED a broadcast receiver lately? Write and tell us about it. If possible, include a picture. Editor, Antique Wireless Association, Main Street, Holcomb, New York 14469.

FROM HEADQUARTERS

I've been reading Dick Fitch's "Antique Radio" column in "Radio Electronics" magazine. It's good copy with lotsa information for the lay collector restoring tube-type receivers. The magazine is a Gernsback publication. Also, I believe we can thank Fred Shunaman for the nice Conference writeup in the January issue....

Do you have a RCA-AR67 commercial receiver? If so, you may be interested in knowing the brass dial plate is calibrated on BOTH sides. One side in KC and the other in METERS. (Info from W3KSQ).

"Seaplane Cruise Around the World in 1934" is a fascinating book recently donated to the AWA library by Yardley Beers (WØJF) and Capt. Frank Dukat (K6NL). It is a vivid day-by-day account of an amateur pilot and a radio amateur as they hopped from port-to-port around the world 50 years ago ! The radio amateur, W1FJ, gives an excellent description of world-wide amateur and commercial radio of the time. The story is summarized on page 11, March 1935 QST. AWA has the entire log!

Fin Stewart (Australia) is currently identifying a huge collection of early light bulbs and tubes for the Sidney Science Museum. The vast collection has been in storage for over 30 years. He's also working on his book describing light bulbs made world-wide. He tells me it may be another three years before it is published.

Several B.V.W.S. members report receiving the Swedish VLF station SAQ during tests last September. They say the signal was not too strong in the British Isles. On this subject, Glen Fuller (N2EXL) is currently writing a paper on the unique mechanical specifications of the Alexanderson alternator used for transmitting the signals.

If you have a set of QST magazines handy, grab the January, 1938 issue and look on page 66. Take a magnifying glass and read the small print in the "Good News" ad at upper left.

Do you have a PBS TV station in your area? Watch for an 8-part documentary on television history to be viewed sometime in February or March. The series will cover both technical and early program development....sponsored by WNET/KCET and partially underwrited by MCI. Info from Larry Flegle.

An impartial summary on the work of TV pioneer John Logie Baird was published in the October issue of the BVWS (British) Journal. Thoroughly researched by historian Desmond Thackeray, he states Baird did NOT send pictures by wireless until 1927 thereby giving American C. Francis Jenkins preference.

A recent article in an airline publication quotes a NYC collector stating: "Marconi invented radio....he was an American and had immigrated to America.". The same NYC collector goes on saying, "....some restored battery sets of the 1920's sell for as much as $4000." He is NOT an AWA member.

The new public television museum on Long Island is seeking early professional television equipment used in station studios. If you are aware of the availability of such equipment, write:

Richard Koszarski, Curator
Museum of the Moving Image
34-36th St., Astoria,NY 11106

(See Jack Davis TV column for more information.)

H.V. Kaltenborn, distinguished news commentator, was the one who encouraged the founding of the "Broadcast Pioneers Library" in Washington, D.C. "H.V." stands for Hans von Kaltenborn. He dropped the "von" from his name during the intensely anti-German period during World War I and eventually became known only as H.V. Kaltenborn. The Broadcast Library recently celebrated its 15th Anniversary. Congrats Cathy!

C.H.R.S. will have "Swap Meets" at Foothill College, Los Altos, Calif. on Feb.28, May 23, and Aug.22. Non - members are invited to attend.

Mni tnx to Alan, K2EEK fer the vy fb plug in Nov. '86 "CQ".....

The AWA REVIEW received a nice review in the December IEEE SPECTRUM. The response was excellent indicating IEEE members have interest in historical material. Thanks Don Christiansen.

NEW MEMBERS

who are (or were) with the electronic communication or related industry.

Information in this column is obtained from the member's Application Form. If you are not listed, you did not fill in the form properly.

Hy Stadlen, Station WCDB
John Denham (K6FK) Broadcast engineer
Arlo Myers (WA6UDR) Stat. KEVR, Alaska Communication System
Vernon Thomas (KB2YR) Station WFCZ
Sidney Poston, Station KTLW
Richard Marks (W2IEC) Gen.Elec. Co.
Don Neville (K4RSB) Elec. Eng. NASA
Terrence Wingrove (England) Cossor Radar & Electronics
Codechevre Edmond (F8RF) Chief Editor of "Electronique de Puissance"
Karen Ballman, G.T.E.
Wm. Buchan (W8QKM,W2OMV) Gen. Elec.
Andrew Gallatin, County Dept. Com. Tech.
Wm. Bauer (W4NZY) Television engineer
Hans Alderliesten, H.M.C. Esquimalt B.C.
Francis Marcellino (W3BYM) Physics Lab, John Hopkins Univ.
Harold Winard (KB2M) Stats. WNNJ,WIXL, WRAN, WBUD, etc.
Gunne-Bert Wedell (SM5ABJ) Swedish radar/electronics
Frank Brooks (W4UMC) Defense Dept.
Donald Donadio, AT&T
Arthur Piccarreto, Ind. electronics
Joseph Infranca (K2KBU) Prec, Radio Corporation
Richard Koszarski, Curator American Museum of the Moving Image
Richard Westerberg,Electronic Dept. MCC
Francis Bock (WA2UOG) Norden Systems
Howard Robinson, W-U & R.R. telegrapher
Robert Haworth Haworth (W2PUA) RCA
Robert Enemark(W1EC) Detection Systems
Robert Puttre NYNEX Commun. Lab.
Roy Sonnex (England) BBC Television
Harold Phillips (W2EFI) ABC
Chester Arnett, AT&T, ship operator
James Colgin, Gen. Electric Co.
Otis Holmes (W4GBQ) Anniston Army Depot
Bernard Ziegner (N1CIF) M.A. Com. Inc.
Historical Electronic Museum, Inc. Baltimore, Maryland
David Newkirk (AK7M) Asst. Technical Editor, QST, ARRL
Henry Warner (W1HRQ) Ship operator, NBC, RCA, etc.
Bruce Elving, Publisher "FM Atlas"
Kent Karlsson (SM5LQL) Swedish Miliary
Adolph Uryniak (W2UT) F.C.C.,WIBX,etc
Thurman Henderson, Prof. Elect.Engineering Univ. of Cinn.,LTV,etc
Joseph Kugler (W2KU) Sylvania, G.T.E.
F.N. Eddy, MITRE Corp.
Victor Smith, Polarad Electronics Inc.
John Ward (N4EBG) Globe Wireless, etc.
Jack Proefrock (K6QEQ) Telegraph operator N.Y.C. & Sante Fe RR
Bruce McArton, Prof. Chesapeake College
John Asher (W2NXB) Press Wireless,Inc.
James Hinchley (VE3CLX) Northern Electric., Ltd.
Robert Walsh, W.E. - BellLabs
John Antonio (W3UAQ) Stat. WLIH
John Pomazi, Audio Import Ltd.
Henry Meyer (W6TDP) Precision Echo Co.
Bruce Packham (W3UWV) AA-1 Corp.
Wm. Wakefield (W8ISN,WB4DSX) Marine Radio
Bill Spilka (N4MNM)Cable TV engineering
H.J. Geisler (W2KEY) RCA, Bell Labs
Cary Meigs, Ampex Mag. Division
Carl Wiedow (WB6RMM) Chief of Research Humphrey,Inc.
Tom Cadigan, Naples Television Centre
Larry Dean (N6NVF) Stats. KTWO,KVOC
Chester Beck (K6DFP) Gonset Radio Co.
Ken Burns (WB6UWX) Marine Radio
Wm. Woodard (W8CJC, W9IWY) Standard Components Inc.
Paul Ernst, Rochester Instruments Sys.
George Ward (W8JWX) Western Union
Robert Wilhelm (W2LQB) AT & T.
James Inman (WB7WDW) Commer. Radio
Michael Csontos,Elect. Eng. EK Co.
Dick Dreyfuss, CBS,Dumont, Westinghouse, Stat.WAGM
Daniel Bode,Bendix Corp., Bell Labs
Roland Martick, G.T.E., Sylvania
Gary Sharpe (KA8DKY) Stations WNYR, WHK, WARM, etc.
Mike Ludlum, CBS, WGVA, etc.
Charles Charman, Radio Corp. of Amer.
Louis Asheroff (W2NXH) School instructor Radar R&D, etc.
John Winams (WA2LGE) AT&T,Bell Labs
Mikio Kojima (Tokyo) Trial Electric Inc.
Tadashi Omori (Tokyo) Trial Electronics Products, Inc.
David Morris, Sparton Radio of Canada
Russell Maurer,Stress Technology,Inc.
Wm. Fishback (W1JE) Commer. RCA,WCC
Dr. Frank Harris (VE3AMD) National Research Council of Canada

RECENT RADIO and ENTERTAINER OBITUARIES

by Paul Feldman

STUART YOUNG (52 yrs.)
Chairman of British Broadcasting Sys.

GORDON MC LENDON (65 yrs.)
Co-founder Liberty Broadcasting Co.

PARKER GATES (79 yrs.)
Founder Gates Radio Co. (Harris)

MARK HIRAM HAWLEY (76yrs.)
Broadcast announcer, CBS, etc.

NATE HALLENSTEIN
Popular old time Radio Inspector 1st.Dist.

JACK POPPELE (88 yrs.)
Pioneer manager of WOR,VP of Mutual BC System, past president Radio Assn.

KEENAN WYNN (70 yrs.)
Actor in movies and 250 television shows.

HERMAN VON SIEMANS (101 yrs.)
German industrialist and grandson of company's founder.

TOMMY REYNOLDS (69 yrs.)
Well known TV actor, musician and music director for WOR.

HORACE HEIDT (85 yrs.)
Popular radio & TV bandleader

DAVID RUBINOFF (89 yrs.)
Popular violinist on NBC "Chase and Sanborn Hour" (Rubinoff and his Violin)

FORREST TUCKER (67 yrs.)
Known for his role as Sgt. O'Rourke in "F Troop" series,etc.

SCATMAN CROTHERS (76 yrs.)
Musician and TV star

IRVEN TRAVIS (82 yrs.)
Pioneer computer scientist.

BOB ANTHONY (71 yrs.)
Radio vocalist with Tommy Dorsey, Harry James and Eddie Duchin.

DESI ARNAZ (69 yrs.)
Member of the first popular man-wife TV team "I Love Lucy".

DR. WILLIAM EVERITT (86 yrs.)
Radio engineering author.

DANIEL SCHULTZ (87 yrs.)
Senior V.P. Leeds & Northrup Co.

CHARLES HARRIS (88 yrs.)
VP/Chief Engineer Tropical Radio,UWT.

TRICKS OF THE TRADE **by Horace Windgate**

One can be a successful thief at a radio meet, or for that matter at any gathering where there are crowds of people with valuables out in the open.

First, and foremost, don't register and walk around with a name tag. That's stupid. If a registration/name tag is required ... go back to your car or in the john out of sight, and change your name. If it is the slip-in plastic type, just turn the card over and write in John Oomph.

Next ... stick to small (and expensive) items. An old trick is to walk around carrying your coat or jacket. Place it on the object you're interested in – and casually pick it up, firmly grasping the object under the coat at the same time. Be casual about it. Work your way back to the car and drop it on the floor. Don't examine it – that can come later.

Another ruse is a camera bag with a collapsible opening in the bottom. Place it on the object, reach in, pick up the article, secure the opening and then nonchantly remove your Nikon and take a picture.

Good timing is important such as when a newcomer drives into the flea market parking lot; join the large crowd surrounding the victim. Everyone wants to have first crack at the "*goodies*", and pandemonium reigns. Hands are grasping and examining everything in sight. This is your chance. Act fast, for when the initial excitement is over, the victim gathers his wits and starts keeping an eye on things. Just casually pick up something and walk away with it as if it belonged to you. No one will notice in the confusion.

Another ploy is the "*pickup*". There are always absent-minded people who leave things on a table or chair. Watch the object for a few minutes and if the owner doesn't return– pick it up and amble off with it. If confronted by the owner, tell him (or her) that you were about to take it to the front desk as a lost object. Act pleased that you found the owner!

This is all better than cheating someone with a fake repro or peddling a bum set with open AFT's. This way they won't know you– **UNLESS YOU'RE CAUGHT!**

Museum News

MUSEUMS IN TRANSITION

Seven museums devoted to radio and related subjects are in the process of transition:

CINCINNATI (Ohio) Plans are being made to create a public museum in a section of the old Union Railroad station. Three interested parties are involved- The Jack Gray Museum currently displayed at the Telecommunication Center, the Univ. of Cincinnati under the leadership of Dr. Thurmond Henderson and the Radio Club of America.

MINNEAPOLIS (Minn.) has a similar project underway with the Joseph Pavek collection forming the nucleus of the exhibit.

HARRISBURG (Penna.) The State Museum plans a large display of historical artifacts centered around material from Maj. Armstrong's estate. Viewing date: sometime in 1988.

NEWINGTON (Conn.) Funds are being raised to build a reception center and Museum at ARRL Headquarters. The building will be adjacent to the W1AW station and will house amateur equipment including a series of vintage stations.

ASTORIA (Long Island) The American Museum of the Moving Image is a large undertaking described elsewhere in the Bulletin. Target date for initial opening is early 1988.

CHICAGO (Ill.) A public museum devoted to radio and television is in the forming stage. Little information available.

DALLAS (Texas) The Texas Broadcast Museum, which has been closed for the past three years, is preparing to reopen this spring. The museum will be housed in the new Dallas Communication Complex being built by Trammel Crow. Members attending the 1987 VRPS-AWA Convention this fall will have an opportunity to visit the new headquarters.

OREGON

AWA members living in Oregon may wish to join a local club. Dues are $15. which includes a monthly paper and meetings. Write:

Northwest Vintage Radio Society
2515 NE 37th Avenue
Portland, Oregon 97212

RADIO MUSEUMS IN SWEDEN

Sweden offers two fine radio museums to visit. The Telecommunication Museum displays some very early commercial equipment including a 1908 ship station complete with multiple tuner and magnetic detector.

The Motala Broadcasting Museum is housed in an early broadcast station-- a beautiful building located between two ancient antenna towers. The equipment inside the building dates from the earliest days through the end of the tube era-- a great quantity of rare transmitting and receiving gear.

73, SM5ESU

MOTALA BROADCASTING MUSEUM	
Address:	Bondebacka S-59135 Motala Sweden
Telephone:	Nat 0141-52202 Int +4614152202

TELECOMMUNICATIONS MUSEUM	
Address:	Tekniska Museet Museivägen 7 S-11527 Stockholm Sweden
Telephone:	Nat 08-631085 Int +468631085

Michael Faraday

The main permanent exhibit at the Royal Institution in London, England is devoted to Michael Faraday. In 1831, Faraday discovered the phenomenon of electromagnetic induction -- the ability to generate electricity with magnets in experiments in his laboratory at the Royal Institution.

A recreation of his lab, displaying much of Faraday's original equipment is the centerpiece of the exhibit at the Royal Institution.

The Royal Institution of Great Britain is located at 21 Albemarle Street, London W1X 4BS.

Radio Museum in Sao Paulo, Brasil

RADIODIFUSAO PORTUGUESA

Historical radio is very much alive in Brasil. AWA member Carlos Fazano reports a recent exhibit at the Centro Cultural celebrating 60 years of radio. The event was sponored by "Radio Difusao Portuguesa, Portuguese Broadcasting System."

An illustrated brochure showed equipment dating from 1914 to the 1970's and included microphones and recording se

THE MUSEUM

NEW EQUIPMENT in A.W.A. Museum

(sets, parts, magazines, books, etc.)

K2MP, K2PPO, N2GHD, WB2NLU, WA2ZHV, W2GK, W2LL, W2UT, KD2AE, KA2GLG, WB2-BNJ, KD2CV, W3YEY, W4GF, W7JY, WØEOM, VE3HC, Tom Pamula, Paul Andrews, Helen Cundall, Gerald Wells, Frank Sulek, Frank Scheidt, John Doherty, Jim Reddig, Justin Mueller, Ludwell Sibley, Dave Hagey

Monentary gifts to MUSEUM FUND: Henry Blodgett, W2UTH, Ludwell Sibley and Robert Buehlmann, N4IQA.

Many of the above donations will be described and featured in future OTBs. Special mention must be made of the exceptionally large and fine LEE HAGEY collection donated to the Association by his son Dave Hagey.

Lee was an avid collector who meticulously restored his pieces to perfection. They will find a prominent spot in the Museum.

MUSEUM ACTIVITY

1986 was a most successful year with high attendance attracted by the several new exhibits such as Ken Conrad's Magnavox and National displays and Rex Matlack's early wireless station.

Consideration is now being given to an additional storage building. An alternative is to utilize present space more efficiently. A decision will be made by the Museum Committee at their March Meeting.

Again, I want to thank the museum guides for their participation and the members who donated equipment for display. -- *B.K.*

A.W.A. HISTORICAL MUSEUM

East Bloomfield, N. Y.
Free Admission

Museum Hours:

May 1st through October 31st
SUNDAY 2 TO 5 PM

June 1st through August 31st
SATURDAY 2 TO 4 PM
WEDNESDAY 7 TO 9 PM

Open to groups by appointment
Tele. (716) 657-7489

Museum Tele. (716) 657-6260

ADMINISTRATION — Chas. Brelsford, K2WW

CURATOR — Bruce Kelley, W2ICE

Administrative Asst: Arthur Kelly, W2ROB

Asst. Curators: Glen Fuller, N2EXL; Ed Gable, K2MP; Jack Wenrich, K2RY

ACCESSION COMMITTEE

Roland St. Louis, K2LKH
Charles Bliley, K3NAU
Richard Fish, W2OWF
Curator

COMPUTER REGISTRATION:

Charles Bliley, K3NAU — Steve Sykes, KD2OM

MUSEUM MAINTENANCE and GUIDES*

Dave Atkins
Al Bowman, W2ZUX
Dave Crothers
Paul Feldman
Babs Fuller
Glenn Fuller, N2EXL
Bob Hobday, N2EVG
Doug McManus
Ed Maher, WB2ZJY
Brad Mitchell, WB8YGG
Ron Nelson, KA2GLG
Don Ray, WA2PKS
M. Rosenfeld, KA2JAJ
Bill Shaw, W2HYN

(**Officers and Directors also act as Museum guides.*)

AMATEUR OPERATION

W2AN: Geo. Batterson and B. Kelley

LITTLE KNOWN FACTS: Two new types of microphones came into general use in 1931. RCA came out with the *ribbon mike* and Bell Labs with the *dynamic.*